LANGUAGE NESTS AND LANGUAGE ACQUISITION:

AN EMPIRICAL ANALYSIS

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To Uncle Ken,
the "*Puna kahuna*" who gave me the meaning
that has fueled this journey.

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Abstract

This dissertation presents the findings from interviews conducted with language nest workers, teachers, language nest coordinators, administrators of language revitalization programs, principals and directors of language immersion schools that work in close proximity with language nests, and linguists involved in language revitalization efforts. The intent of this research was to learn more about the situation of language nests in the world today. Interview results included discovering answers to questions including but not limited to:

- What does it take to establish a language nest?
- What does it take to maintain one?
- What are some of the differences between language nests that continue and those that collapse within a year or two?
- What resources do language nests have?
- How are language nests funded?
- How much does it cost to run a language nest?
- What are some of the challenges faced in running a language nest?
- What are the language backgrounds of language nest teachers?
- What advice do language nest workers have for communities considering starting a language nest?

A second component of the dissertation research involved pilot studies to develop methods for assessing children's language acquisition in language nests. These assessments were

concerned with comprehension and production of basic vocabulary, basic coding strategies, and language-specific morphosyntactic features. This dissertation was not intended to be an acquisition study. Rather, it was intended to be a survey across language nest programs. This dissertation addresses acquisition as a topic in relation to language nests, and how acquisition studies at a language nest would fit into some of the extant literature.

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Introduction

1.1 Introduction

Languages are falling into disuse at alarming rates. While the initially popularized catch phrase "a language dies every two weeks" (Crystal 2000) has been replaced with a count of one about every three and a half months (Rogers and Campbell 2015:3), even these more recent numbers are still cause for responding with urgency. According to the *Catalogue of Endangered Languages* (ELCat), nearly half of all known languages are in some danger of going silent (ELCat 2017).

To clarify, these languages are in varying degrees of risk of not being learned as a first language. As native speakers of the language age and pass away, they are not replaced by a younger generation of speakers. This lack of "intergenerational transmission" eventually results in a language being spoken by fewer and fewer people in increasingly fewer domains until no one living speaks the language as a native language. In some situations, the language is no longer used as a primary language of communication at all, even as a second language.

This is not to say that the language has "disappeared" entirely, in the sense that documents written in and/or about the language may remain. In addition, traditional songs, prayers, and chants in the language also tend to outlast fluent communications in the language.

In response to the risk of language transmission being interrupted, various language revitalization methods have been developed in order to help people learn to speak their heritage language. These methods include but are not limited to the following: language immersion schools, bilingual schools, language classes for children in schools, adult language classes in the community, development of a writing system and literature in the language, language-learning apps, radio programs and television channels or programs conducted in the language, master-apprentice programs,[1] and language nests. This dissertation is primarily concerned with the last of these methods—language nests.

A language nest is typically described as a language immersion pre-school program developed with the intent of creating a new generation of first language (L1) speakers or bilingual speakers (Hinton & Hale 2009). Language nests vary in the degree of immersion, whether they operate more as a daycare or as a preschool, and in the number and ages of children accepted.

The goals of this dissertation were to (1) discover the current state of language nests in the world today; (2) learn how a language nest is established; (3) observe patterns across language nests with regard to how they operate and what it costs to run them; (4) learn of challenges and factors leading to success; and (5) to determine if intergenerational transmission was occurring in language nests. These research questions and goals are discussed in further detail in sections 1.3 and 1.5.

[1] A master-apprentice program is a method of language revitalization in which a fluent (usually elder) speaker of a language is paired up with a younger learner. They do a variety of activities together (often traditional cultural activities, e.g. fishing, basket-weaving) with the goal of communicating entirely—or as much as possible—in the target language.

1.2 Background

Many linguists have been concerned with language loss, as evidenced by the growing scholarship on endangered languages. The scholarly literature on endangered languages deals with a range of topics, including, but not limited to: rating languages' endangerment levels (Fishman 1991; Lee & Van Way 2016), surveying the world's least documented languages (Hammarström 2010), the structural changes of obsolescing languages (Campbell & Muntzel 1989; Palosaari & Campbell 2010), and grammars of endangered languages or knowledge about endangered languages resulting from documentation efforts, e.g. Amahuaca (Sparing-Chávez 2012) and Kawésqar (Aguilera 2009), among many others.

The Recovering Voices, the Smithsonian Institution's language and culture revitalization initiative, produced a directory of revitalization programs (Pérez Báez, Vogel, & Okura, *forthcoming*). The initial directory contained 18 entries categorized as language nests. Through a dialogue between the Biocultural Diversity Initiative at the University of Hawai‘i at Mānoa and the Recovering Voices initiative at the Smithsonian Institution, a study of language revitalization programs was requested. From among the vast range of language revitalization programs, this dissertation focuses on language nests (see below for details of the goals of this dissertation).

1.3 Research questions

A number of research questions are covered in this work. The fundamental questions are: What is a language nest? Within that question is the range of definitions of the term "language nest," i.e. how do different people use this term? Other research questions investigated are: Approximately how many language nests are there in the world?, and what are they like?

Other practical questions for language nests include: how does one start a language nest? How does (or should) a language nest operate? What does it require in financial, human resources, and other resources to maintain a efficiently functioning language nest?

To gain deeper understanding of language nests, this dissertation also investigates the following questions: What are the goals of currently operating language nests,?; are those goals being accomplished, and to what degree?.

What makes a language nest an effective place for transmitting a language inter-generationally? What factors are helping language nest workers, and what challenges are they facing? Finally, what advice can existing language nests offer communities that are interested in starting a language nest?

It is hoped that the results from a combination of interviews and acquisition experiments will provide in insights into what makes a language nest successful, and what factors assist those that are able to continue and are able to produce fluent speaking children.

These questions are significant in that their answers will reveal what is happening with regard to this method of language revitalization. The language nest has a central role in language revitalization as it is one of the most direct ways to attempt to create a new generation of first language speakers. In addition, one possible ideal of a language nest is to expose young children to the language at an early age with the idea that they can better acquire the language's structure and phonology. However, this would only occur if the input the children are exposed to has native-speaker qualities (e.g. native speaker pronunciation). In the majority of cases observed, most of the language input children received was from fluent second-language speakers of the language, making some of the subtle phonetic distinctions less relevant.

1.4 Problem

Two years ago, William O'Grady stated that, "as things now stand, language revitalization belongs to the field of wishful thinking; we need to make it a legitimate branch of linguistics" (William O'Grady, p.c. 2014). Since then O'Grady and Hattori (2016) have brought the relation between language acquisition and language revitalization into academic discussion.

While very thorough language-specific research, language nest-specific studies, or community-specific research has been done on language nests, little is known about the general state of language nests in the world at large. This research aims to further link the realms of language acquisition and language revitalization through an investigation of language nests. The plight of endangered languages lies in part in the balances of how language nests are doing.

1.5 Purpose

The intent of this dissertation is to continue the recently started dialogue on language acquisition and language revitalization, focusing on language nests in this conversation. The goals of this dissertation were two-fold. The first part was global and involved interviewing personnel at language nests around the world. The purpose of these interviews was to see what it takes to establish a language nest and to maintain it, to see how many children are enrolling and re-enrolling, what kind of follow-up is available for children once they graduate from language nests, and to determine the challenges and factors of success across different language nests.[2]

[2] This dissertation does not attempt to define "success." Rather, the intent was to learn from each language nest what they viewed as success. For some language nests, it meant having fluent speaking children graduating from the language nest. For others, it meant running smoothly. For yet others, success was not just about language, but about teaching children the culture and values, and creating a safe place where children would be loved and nurtured. When discussing factors of success with regard to children's language, language is specified.

The interviews were also a medium to learn from the experiences of those who are actually on the front lines of operating language nests, and served as a platform for them to share advice or thoughts with others. The second part consisted of focused language acquisition pilot studies at four language nests. The purpose of these pilot studies was to do a trial run of what future acquisition assessments would need to do if wanting to measure how effective language nests are at helping children acquire the target language, i.e. creating intergenerational transmission.

First, the intent was to gather data about a variety of language nests around the world. I aimed to gather both quantitative and qualitative data about language nests. The goal of this part of the research was to determine, in as far as that would be possible, what language nests typically were doing and what practices they reported worked best and which worked least well. The intention is for this information to be shared with both existing language nests and with endangered language communities interested in establishing language nests. The hope is to create more communication among language nests globally, so that individuals and organizations involved with language nests can learn from each other's experiences, successes, failures, challenges, and outcomes.

The second goal was to determine how much language children are learning in language nests. This was done by assessing children's acquisition of selected vocabulary and features in each of four principal language nests. Complicit within this second goal was an investigation of whether or not there are any correlations between the findings in the first part of the study and the acquisition levels in the second part of the study, i.e. whether or not factors such as the number of hours of language exposure or fluency of teachers, etc. of a given language nest have any correlation to the results of children's language acquisition assessments. In addition, the acquisition activities also provide information on order of acquisition and stage of acquisition for

children in these endangered language contexts. If the child has not yet acquired certain features of the language, it may mean that the features are linguistically and cognitively complex, and that acquisition of these comes at a later age. It could be that the language nest is effective at exposing the child to language input with these features in it, but that it just takes a cumulative effect over time for the results to fully show. In addition, it is not just a matter of time, but of the child reaching the level of cognitive development to where he/she is able, cognitively, to acquire those kinds of linguistic traits that require greater levels of cognitive maturation.

1.6 Relevance to linguistics

Language documentation has been well integrated into linguistics as a discipline, with clear applications to linguistic theory and to phonology, phonetics, syntax, morphology, and for corpus linguistics, sociolinguistics, and linguistic anthropology. Recent years have also seen the growth of language revitalization literature (Hinton 1994, 2013; Johnston & Johnson 2002; Hinton & Hale 2009; Reyhner & Lockard 2009; Borgia 2014; see Pérez Báez, Vogel, & Okura, *forthcoming* for a survey of the now rather extensive literature in this area).

Much valuable work has been done, and some scholars have addressed the need for and potential benefits of more frequent and effective collaboration between linguists and language activists (Reyhner & Lockard 2009; Rice 2009). Few studies have attempted to assess acquisition in language revitalization programs; see, for example: Cherokee (Peter, Hirata-Edds, & Montgomery-Anderson 2008), Hawaiian (Housman, Dameg, Kobashigawa, & Brown 2011), Kaqchikel (Heaton & Xoyón 2016), and Seneca (Borgia 2014). The Housman, Dameg, Kobashigawa, and Brown (2011) study focused on immersion schools. This dissertation expands acquisition assessments to other varied revitalization programs internationally, focusing on

language nests: Hawaiian (USA), Inari Saami (Finland), Māori (New Zealand), and Mohawk (USA/Canada).

1.7 Overview

Following this introduction, the dissertation is divided into three parts. Part 1 is concerned with the interviews conducted with language nests. It includes *Chapter 2 Language nests and their definition in the context of language revitalization literature*, *Chapter 3 Methods*, and *Chapter 4 Interview Results*. Part 2 covers picture task pilot studies conducted at language nests. It consists of *Chapter 5 Review of literature for language nest pilot studies*, *Chapter 6 General methods for language nest pilot studies*, *Chapter 7 Hawaiian*, *Chapter 8 Mohawk*, *Chapter 9 Inari Saami*, and *Chapter 10 Māori*. In Chapter 11, findings from Part 1 and Part 2 are summarized and synthesized.

Part One:
Language Nest Interviews

Chapter 2

Language nests and their definition in the context of language revitalization literature

2.1 Introduction

This chapter reviews the literature relevant for the language nest interviews. Chapter 5 contains the review of literature relevant to acquisition in language nests and in language revitalization programs generally.

2.2 What is "Language Endangerment"?

Rogers and Campbell (2015) clarify that "more precisely, it is not a language itself that is endangered, but rather it is the continued use of the language that is under threat."[3] They explain that language endangerment is not a matter of a clear "yes-or-no," but rather that it is a matter of degree (*how* endangered a language is). Language endangerment is a complex issue involving a variety of factors. Those factors determine how the degree of endangerment is measured.

[3] http://linguistics.oxfordre.com/view/10.1093/acrefore/9780199384655.001.0001/acrefore-9780199384655-e-21?rskey=1bGQ1d&result=3 Accessed 1/13/16

2.2.1 How is language endangerment measured?

Just as a person's vital signs (e.g. pulse, blood pressure, etc.) are taken to determine their overall physical condition, languages similarly have "vital signs" which can serve as clues to determine the critical nature of its use—and ultimately their continued existence. Linguists and others have developed various scales in attempts to measure these "vital signs," to determine how endangered a language is. Some of these endangerment scales include the Graded Intergenerational Disruption Scale (GIDS) (Fishman 1991), the Expanded Graded Intergenerational Disruption Scale (EGIDS) (Lewis & Simons 2010), and the Language Endangerment Index (LEI) (Lee & Van Way 2016). This current study uses the Language Endangerment Index (LEI), produced with the *Catalogue of Endangered Languages* (Lee & Van Way 2016). There are several factors that determine how much a language is "under threat" of being lost. The LEI uses four factors that primarily determine whether or not a language is falling into disuse:

1. The absolute number of speakers
2. Lack of intergenerational transmission (whether or not children are learning it as their first language in the home)
3. A decrease in the number of speakers over time
4. Decrease in the domains of use (where and in which contexts the language is used)

(See also Campbell & Rogers 2015.)

The LEI gives a rating for each of these four factors for a language and combines the scores to determine an overall level of endangerment. In addition to an endangerment level, each language's endangerment status is also given a percent of certainty, based on for how many of the four factors information was available to for determining the endangerment level. If data is not available for all four factors for a given language, then the endangerment level is assigned based on the information available, but with a lower percent of certainty.

Each of the four factors is ranked 0-5 ("Safe" to "Critically endangered"). Lee and Van Way emphasize that the LEI measures endangerment as opposed to vitality, so the higher the score, the greater the language's risk.

Table 2.1. Language Endangerment Index (LEI) (Lee & Van Way 2016)

	Critically endangered (+5)	**Severely endangered** (+4)	**Endangered** (+3)	**Threatened** (+2)	**Vulnerable** (+1)	**Safe** (0)
Absolute no. of native speakers	1-9 speakers	10-99 speakers	100-999 speakers	1,000-9,999 speakers	10,000-99,999 speakers	≥100,000 speakers
Inter-generational transmission	"There are only a few elderly speakers."	"Many of the grandparent generation speak the language, but the younger people generally do not."	"Some adults in the community are speakers, but the language is not spoken by children."	"Most adults in the community are speakers, but children are generally not."	"Most adults and some children are speakers."	"All members of the community, including children, speak the language."
Speaker number trends	"A small percentage of the community speaks the language, and speaker numbers are decreasing very rapidly"	"Less than half of the community speaks the language, and speaker numbers are decreasing at an accelerated rate."	"…about half of community members speak the language." Speaker numbers "decreasing steadily, but not at an accelerated rate"	"A majority of community members speak the language. Speaker numbers are gradually decreasing."	Most community members "speak the language. Speaker numbers may be decreasing, but very slowly."	"Almost all community members speak the language, and speaker numbers are stable or increasing."
Domains of use	"Used only if a few very specific domains" (e.g. "ceremonies songs, prayer...limited domestic activities")	"Used mainly just in the home and/or with family"; "may not be the primary language even in these domains for many"	"Used mainly just in the home and/or family, but remains the primary language of these domains for many"	"Used in some non-official domains along with other languages, and remains the primary language used in the home for many"	"Used in most domains except for official ones" (e.g. "government, mass media, education, etc.")	"Used in most domains, including official ones" (e.g. "government, mass media, education, etc.")

The level of endangerment is calculated using the four factors in the following way:

> Level of endangerment = {[(intergenerational transmission score x 2) + absolute number of speakers score + speaker number trends score + domains of use score] / total possible score based on number of factors used} x 100. (Lee & Van Way 2016:25)

Intergenerational transmission is given twice as much weight as the other factors, since it is the most significant factor in determining whether or not a language remains in use. This is relevant to language nests, as the language nest model is intended to address this most determinant of language vitality factors—intergenerational transmission. The success of a language nest could help begin tipping the endangerment level of a language into a safer balance. The LEI categories are:

> Safe: 0%
> Vulnerable: 1-20%
> Threatened: 21-40%
> Endangered: 41-60%
> Severely endangered: 61-80%
> Critically endangered: 81-100%

If a language has 100,000 native speakers or more, but no information was available for the other three factors, it is labeled 'at risk' in ELCat, as even a language with 100,000 speakers will disappear from use within a couple of generations if it is not being passed on to children (the "intergenerational transmission" factor). The LEI category "dormant" is for languages that have no known native speakers, that are sometimes referred to as "extinct." Many prefer to avoid the term "extinct" because it may demoralize language group members who otherwise would attempt to revive their heritage languages, and the term "extinct" attributed to a people's language can sometimes be misconstrued to mean that the people and their identity are also extinct. So the term "dormant" is used in the *Catalogue of Endangered Languages*. Some

communities may prefer the term "extinct" for their group's language, because it elevates awareness of their plight. Both terms are used here in order to represent both views.

2.3 Language revitalization

The literature on language revitalization is extensive and it is expanding. Its content is varied and is composed of several subgenres, including but not limited to: general overviews of language revitalization (for example, Hinton & Hale 2009), expositions on specific methods of revitalization (for example, Hinton 2013), pedagogical issues (see for example Reyhner 1997), areal/language-specific case studies (for example, Hobson, Lowe, Poetsch & Walsh 2009 and Balcazar 2009, among many others), and acquisition assessments (Housman et al. 2008; Peter et al. 2003), to name just a few. There are also publications on sociological issues related to language revitalization—in particular, identity issues, as well as some of the health and social benefits of language vitality in indigenous communities (Chandler & Lalonde 2008; Hallet, Chandler, & Lalonde 2007; Whalen, Moss, & Baldwin 2016).

This section reports on the definitions of terms used in the literature and in this dissertation, as well as a brief overview of published works on language revitalization.

2.3.1 Definitions of terms

2.3.1.1 Revitalization

"Language revitalization" is a general and overarching term. Here I use King's definition:

> Language revitalization, as I define it, is the attempt to add new linguistic forms or social functions to an embattled minority language with the aim of increasing its uses or users. More specifically, language revitalization, as conceptualized here, encompasses efforts which might target the language structure, the uses of the language, as well as the users of the language. (King 2009:23)

King continues on to say that "language revitalization is thus the process of moving towards renewed vitality of the threatened language" (King 2009:23). The primary difference between revitalization and maintenance is revitalization efforts are intended to increase vitality, rather than just to maintain the status quo.

2.3.1.2 Maintenance

In *The Handbook of Applied Linguistics*, Pauwels defines language maintenance in the following way:

> The term language maintenance is used to describe a situation in which a speaker, a group of speakers, or a speech community continue to use their language in some or all spheres of life despite competition with the dominant or majority language to become the main/sole language in these spheres. (Pauwels 2004:719)

According to this definition, maintenance differs from some other types of revitalization in that the goal is to continue the current level of use rather than to increase the domains of use or numbers of speakers. There might be an assumption that in language maintenance situations, the language in question is vital and requires support to sustain its speaker base, rather than requiring the more energy-intensive efforts to recreate speakers and reopen domains of language use. A rough analogy would be to maintain pace on a treadmill, or to stay in the same spot in a flowing river—it requires exertion not to be thrown off the treadmill or to keep from being swept downstream.

2.3.1.3 Reclamation

Zuckermann and Walsh (2011) define "reclamation" as "the revival of a language that has no native speakers as in Hebrew" (2011: 119). A language that is undergoing reclamation is sometimes referred to as an "awakening language", or a "reawakening language." Tunica is an

example of an awakening language undergoing language reclamation. The Shinnecock tribe is also reclaiming their language (see chapter 4).

In this paper, I at times use the term "revitalization" to refer broadly to all efforts intended to support the use of a language in whatever way, whether it be to maintain a language as vital while it still is, to increase the number of speakers and domains of use, or to create a speakers after a language has lost all of its first language speakers.

2.3.2 Methods of language revitalization

There are many methods or techniques for language revitalization. These include: Master-Apprentice programs, language immersion schools, bilingual schools, language classes, apps, online language learning programs, language camps, and language nests, family language revitalization in the home (Hinton 2013) are among the main ones. Leanne Hinton stated:

> [t]here is no doubt that [full immersion] is the best way to jump-start the production of a new generation of fluent speakers for an endangered language. There is no other system of language revitalization that has such complete access to so many members of the younger generation (who are the best language learners) for so many hours per day. (Peter et al. 2008:169, citing Hinton 2001:181)

As Hinton pointed out, immersion schools help create a "new generation of fluent speakers," enable "intergenerational transmission" of a language, even if parents of children in immersion schools do not themselves speak the language fluently. Before children are of age to attend school, they can even have this language exposure in language nests, a type of re-creation of the home with fluent speakers of the language.

2.4 Language nests

The first well-known language nest program was developed in the early 1980s in New Zealand for the Māori language, called "*Te Kōhanga Reo* ('the' + 'nest' + language, i.e. language nest)" (King 2008:119). It is possible that Samoan language nests in New Zealand in the 1970s were their forerunner (FPCC 2014:6).[4] Since this start, many language nests around the world have been inspired to follow this model.

2.4.1 Definitions of language nest

The U.S. federal government's Department of Health and Human Services Administration for Native Americans (ANA) gives the legal definition of language nest in the U.S. as:

> A site-based educational program that: provides native language instruction and child care through the use of a Native American language for at least 10 children under the age of 7, for an average of at least 500 hours per year per student; provides classes in a Native American language for parents (or legal guardians) of students enrolled in a Native American Language Nest (including Native American language-speaking parents); and ensures that a Native American language is the dominant medium of instruction in the Native American Language Nest.[5] (U.S. Department of Health and Human Services Administration for Native Americans 2012).

The ANA requires a minimum of 10 children, allows children of any age under 7, and requires an average of 500 hours annually for the language nests they support. The definition provides no basis for the 500-hour minimum, i.e. no scientific linguistic studies were cited as having

[4] Available in print or online: http://www.fpcc.ca/files/PDF/Language/Language_Nest/FPCC_LanguageNestHandbook_EmailVersion2.pdf
[5] http://www.acf.hhs.gov/programs/ana/resource/glossary-of-terms

influenced that minimum requirement. The regulation also requires that the nest "ensures that a Native American language is the **dominant** medium of instruction …" (emphasis added).

The First Peoples' Cultural Council (FPCC) in Canada offers a different definition of a language nest. They caution community members:

> A language nest is a language program for children from birth to five years old where they are immersed in their First Nations language. A language nest provides a safe, home-like environment for young children to interact with fluent speakers of the language, often Elders, through meaningful activities.
>
> The goal of the language nest is not to "teach" children the language, but rather to create an environment where language can be acquired naturally, as infants acquire their first language. It may be useful to think of a language nest as "Granny's house", where children are cared for in a traditional, cultural way *in* the language. [6] (FPCC 2014:5)

This view of language nests more closely replicates the "home" environment proposed by Hinton (2013). As opposed to the U.S. government's definition that the language be the "dominant" medium of instruction (which seems to replicate more of a formal school environment), the FPCC's *Language Nest Handbook for B.C. First Nation Communities* makes the distinction: "A language nest is not the same as existing English-based childcare programs. Only full immersion in the language makes a program a language nest" (FPCC 2014:6).[7] The FPCC also states that in Canada children ages zero to five years old may participate in language nests. They give further cautionary advice language nest administrators:

> Be careful to not equate a language nest with existing programs (such as daycares or preschools) because people may expect your program to look like and act like existing programs that have been designed for purposes other than language and cultural development.[8] (FPCC 2014:6)

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[6] http://www.fpcc.ca/files/PDF/Language/Language_Nest/FPCC_LanguageNestHandbook_EmailVersion2.pdf
[7] Ibid
[8] Ibid

It has become apparent in preliminary research from contacts and observation that some of the existing programs advertised as language nests are perhaps positive programs for the children, but use the dominant language (as opposed to the target language) as the main medium of communication, with attempts at teaching a few words or limited phrases in the target language. This is not necessarily the fault of those who are employed in these programs. Other factors may interfere (e.g. childcare issues, too many children per staff member, behavioral problems, availability of competent speakers, etc.).

These programs may have positive social and cultural influences on the children and may aspire to become full-fledged language immersion nests, but are currently primarily childcare facilities that provide very limited exposure to the language. In such communities, the language may be even more severely at risk than perhaps previously supposed, as the existence of programs can give the appearance of successful revitalization, regardless of failure to create new speakers.

Chambers (2015) wrote on the incorporating diverse approaches to both developing and delivery language nest programs. Other papers have been written about specific language nests, including: Te Kōhanga Reo (King 2008:87); Navajo Head Start Language Study (Platero 2008:87); and ʻAha Pūnana (Wilson & Kamanā 2008:151-175). These valuable publications discuss important aspects of the histories of these programs, difficulties faced (including lack of governmental support), and program structures, activities, and accomplishments. However, none of these investigates language acquisition in the programs.

Chapter 3

Methods for language nest interviews

3.1 Introduction

Many of the interview questions were adapted from survey suggestions in Hinton and Hale's *The Green Book of Language Revitalization*. In Sim's chapter on Acoma Pueblo revitalization, one of their survey items was the "language used most often by parents when speaking to youth in the home" (Sims 2008:67-68). This was adapted for the interviews to: "What language is used most often by teachers when speaking to children in the language nest?" As this question deals with roles and domains of speech, several variations of this question were developed for the interviews, e.g. "What language do children use most when speaking to each other during instruction?", and "What language do children use most when speaking to each other during play?" King's chapter on Māori revitalization included responses to questions about speakers' fluency—whether or not they were able to carry on conversation in the home, or if speakers had low or high fluency (King 2008:121). These questions were adapted for the interviews to: "What are the language abilities of the teachers?" Answer options included: Native, fluent, conversational, and beginner. However, due to the nature of interviews, there may likely be more complex and detailed answers.

Several rounds of feedback were received throughout the process of developing interview questions, both from committee members and from doctoral students in linguistics at the

University of Hawai‘i at Mānoa enrolled in Dr. William O’Grady’s course: *Language Revitalization: A 20 year plan*. The questions were originally formatted for an online survey, but after consulting with faculty and graduate students, it was determined that interviews would be more effective. The number of language nests where interviews were conducted made it possible to conduct interviews with persons involved with each language nest, as opposed to emailing a survey. Scheduling and conducting interviews was more likely to result in these persons agreeing to participate, as opposed to surveys by email, which are easily missed or ignored. In addition, interviews allowed for more cultural and personal sensitivity with regard to questions involving funding, challenges, efficacy, etc. than a written form would.

The communication style and wording on the interview questions were intentionally less formal and eliminated technical linguistic terminology to make them more accessible. This decision was based on information from the Indigenous Language Institute (ILI) workshops (Mystic Lake, Minnesota 2015) (Inée Slaughter, p.c., 2015).

The ILI has developed new terminology in order to talk about linguistics and language proficiency without creating barriers with communities. Due to a dark history of government-enforced boarding schools and abuse for speaking native languages, understandably there is at times a distrust of government and/or overly official-seeming endeavors (e.g. state universities, consent forms, terminology such as “assessments” and “evaluations,” etc.). Discipline-specific jargon in any field builds a wall between specialists and others. Technical jargon makes information less accessible to outsiders and may be misused (whether inadvertently or intentionally) to create a differential power dynamic. It is this type of power dynamic we wished to avoid (and must avoid) in order truly to collaborate with endangered language communities as effective partners. Linguistics with regard to revitalization is no different.

It is also important to note that some people who are speakers of endangered languages and who are involved in language revitalization are also academically trained in linguistics and/or another related field (e.g. language policy). Just as there is the "indigenous anthropologist" (Sarris 1993) and the "indigenous archaeologist" (Nicholas 2016), there is also the "indigenous linguist." Creating an artificial dichotomy between "indigenous person" and "linguist" fails to recognize those who are both (e.g. Darryl Baldwin with the Myaamia language, Nala Huaying Lee with Baba Malay, and many others.). People can study their own heritage language as both a linguist and a native speaker (e.g. native speakers of English who study English linguistics, or a native speaker of French who studies French linguistics, etc.). The linguist and the speaker need not necessarily be an "other." In addition, some indigenous groups interviewed in this dissertation work or have successfully worked with linguists who are not indigenous. For example, the Sun'aq tribe on Kodiak Island had worked previously with Gary Holton, a linguist currently at the University of Hawai'i. They expressed having had a positive experience collaborating, and they appreciated the work he had done. The Ojibway language nest, *Waadookodaading* also works together with a linguist to optimize the success of their language programs.

Interviews were conducted in person when possible, and via Skype or phone when an in-person interview was not feasible. There were 13 interviews involving directors and teachers from 11 language nests, with personnel from an organization that funds language nests, and with linguists who work in language revitalization. Ten of the 11 language nests were the language immersion daycare/preschool type. The institutions from which personnel interviewed that fund language nests provided information about how their systems operate, providing information relevant to all of those language nests at once. The first was Heli Aikio, a director responsible for

organizing funding for Saami language revitalization programs throughout all of Finland. The institution at which she worked was Sajos, the Saami Parliament in Lapland, Finland. It oversees all 11 Saami language nests in Finland. The second was Aliana Parker, director of funding language revitalization programs at the First Peoples' Cultural Council (FPCC) in British Columbia Canada, which is funding 12 language nests this year. At least 15 other language nests, immersion daycares, or indigenous language Head Start programs were contacted for which interviews could not be scheduled.

While interviews began with the predetermined interview questions, as other valuable information arose, we discussed these in an open-ended nature. The result was a lot of new information that could be useful for communities interested in starting a language nest—some contained within the scope of the predetermined interview questions, and some from unexpected topics.

There were 24 interview questions. In cases where some questions were non-applicable, those were skipped (e.g. language-nest specific questions in interviews with funding administrators, or questions about past observations in the language nest for programs that were about to open for the first time). Interviews typically took 30 minutes to one hours. However, if the interviewee had more time and wanted to share more, interviews went as long as needed for them to share everything that they wanted to. A complete form of the interview questions is found in Appendix A.

3.2 Permissions

An Institutional Review Board (IRB) exemption was received for this study. The interview portion was conducted with adults only. The picture tasks in section two were conducted with children at educational settings as a part of their daily activities. The methods of the picture task portion are discussed in further detail in Chapter 6.

Before interviews, participants were told that the interview was for my dissertation research on language nests, and that I was in Ph.D. program in linguistics at the University of Hawai‘i at Mānoa. They were informed that they did not have to participate, but that if they would like to they could. They were also informed that if there were any questions they did not want to answer, we could skip those. They were provided the option to remain anonymous (i.e. I could leave out their name and/or the name and identifying information about the language nest), or, if they were okay with it, I would cite them by name. Some of the language nest teachers and directors asked to be kept anonymous. I respected their wishes, and they are left anonymous in Chapter 4. Some requested what level of detail was okay to include–e.g. a language nest in a large city, as they expressed that being in a large city affected what the language nest was like. Other language nest teachers and directors or linguists gave their permission to cite them by name and to quote them.

Chapter 4 contains the results of the interviews. I attempted to keep these as accurate as possible to the actual interviews, keeping much of the content word-for-word what was said during the interview. I also wanted people to feel their voice was accurately represented in the dissertation. In order to maintain the integrity of the written interviews to be aligned with participants' views, I sent the written interviews to people who participated to confirm accuracy. If any revisions were made, I incorporated those revisions into the final version presented here.

Chapter 4

Language nest interviews

4.1 Introduction

This chapter reports the results from 13 interviews. Most of the interviews were conducted with language nest directors and/or teachers directly. Where language nest directors or teachers were unavailable at the time, interviews were conducted with teachers, linguists, or other scholars who were directly involved in the revitalization efforts in the particular community that had a language nest, and who had knowledge of the language nest. A couple of the interviews were with administrators of indigenous organizations who oversee funding for multiple language nests.

The 13 interviews are: in Section 4.2, (1) *ʻAha Pūnana Leo o Mānoa*, a Hawaiian language nest in Honolulu, Hawaiʻi; in Section 4.3, (2) an administrator of the First Peoples' Cultural Council (FPCC) in British overseeing language nest funding in British Columbia, Canada; also under 4.3, (3) an interview with a language revitalization administrator in British Columbia, Canada discussing the SENĆOŦEN language nest; (4) a Tahltan language nest in Canada; in Section 4.4 (5) an Ojibwe language nest in Wisconsin; in Section 4.5 (6) a Lakota language nest in North Dakota; in 4.6 (7) three teachers of an Alutiiq language nest on Kodiak Island in Alaska; in Section 4.7, interviews with language nests that also participated in the

picture-task pilot study (8) another Hawaiian language nest in the islands;[9] (9) an interview with the administrator who coordinates funding for all 11 Saami language nests in Finland; (10) a Mohawk language nest on the Ahkwesahsne reservation in Upstate New York; (11) a Māori language nest in *Aotearoa* (New Zealand); in Section 4.8 other interviews with programs related to language nests: (12) a Shinnecock daycare on Long Island, New York; and (13) linguists who work with language revitalization programs in Australia.

This chapter is intended to be a platform for language nest teachers, administrators, and others to inform linguists of what is actually occurring in language nests, and what the reality is of starting and maintaining a language nest. It is not intended to be an evaluation of the language nests interviewed; neither is it intended to be a declaration of what language nests should be doing or what language nest goals should be. In *Someone Else's Language: On the Role of Linguists in Language Revitalization*, Speas (2009) notes that sometimes the best thing a linguist can do in working together with speakers of endangered languages on language revitalization is to first listen. In an attempt to listen to what language nest teachers and administrators are saying, I tried to leave most the interview content in the words of those who were interviewed. Even where content is written in the third person, the descriptors, examples, and word-choices were left in the speaker's voice as much as possible.

4.2 Hawaiian

Directors of two Hawaiian language nests were interviewed. In section 4.2.1 is the information from Kahoku Lindsey-Asing, the director of *'Aha Pūnana Leo o Mānoa*. The other

[9] Some language nests, e.g. one of the Hawaiian language nests and the Māori language nest, are kept anonymous either because it is the policy of the parent organization or because the specific language nest requested it. Specific language nest names and individuals are cited for cases in which permission was granted.

language nest chose to remain anonymous. The information from that language nest is provided in sections 4.7.1 and 7.2.3, and concerns more the daily routine of that language nest.[10]

4.2.1 ʻAha Pūnana Leo o Mānoa

Directly across the street from the University of Hawaiʻi at Mānoa sits *ʻAha Pūnana Leo o Mānoa*, a Hawaiian language nest tucked away next door to a hostel. It is one of the 13 Hawaiian language nests under the umbrella organization, *ʻAha Pūnana Leo*. Each *pūnana leo* (ʻlanguage nestʼ) is named *ʻAha Pūnana Leo o* (name of the location), which means, ʻLanguage nest of (place name)ʼ. For example, *Aha Pūnana Leo o Mānoa* simply means, ʻlanguage nest of Mānoa," where Mānoa is the name of the neighborhood in which it is located. *ʻAha Pūnana Leo o Mānoa* was established in 2012.

Each *pūnana leo* has a *kahu*, a director or an administrator for that particular location, with several *kumu* (ʻteachersʼ). Kahōkū Lindsey-Asing is the *kahu* or director at *ʻAha Pūnana Leo o Mānoa.* He and the *kumu* create a very welcoming environment. The primary language of the nest is of course, Hawaiian. Lindsey-Asing said that this year they were fortunate in that most of the *ʻohana* (ʻfamiliesʼ) of the *keiki* (ʻchildrenʼ) in the language nest have *ʻōlelo Hawaiʻi* (ʻHawaiian languageʼ) in the home. Lindsey-Asing's personal estimate was that most of the families this year have at least 50/50 Hawaiian/English in their homes, if not more Hawaiian. Some of the families are newer to the program, and may not have as much Hawaiian language usage in their home yet but are learning. Some of the children speak primarily English as their first language. A couple of the children know some Sāmoan, and one child knows some Japanese. Teachers and administrators speak to each other strictly in Hawaiian when in the

[10] This language nest has been kept anonymous in this dissertation to comply with the policies of its organization.

language nest with the children. No English is allowed. If parents who speak less Hawaiian come and need to talk about something in English to the teachers or to the director, they are required go to the *kahu*'s office in the back of the building, away from the room where the children play, so that the children do not hear their parents speaking English in the language nest. As with all of the *'Aha Pūnana Leo*, children are only allowed to speak Hawaiian. The program describes it as a *kapu*[11].

Each *pūnana leo* in the organization has the same shared objectives. These can be found on their website. The website states:

> Our goals are to:
>
> (1) Create a supportive environment where students and their families develop the ability to communicate effectively in the Hawaiian language, understand and appreciate Hawaiian culture and values and participate confidently in contemporary Hawaiian society, and
>
> (2) Execute a program that ensures kindergarten readiness in areas of age-appropriate social, intellectual, and perceptual motor skills.[12]

Lindsey-Asing explained that all of the language nests under *'Aha Pūnana Leo* share the same objective, and yet they each have the freedom to carry that out in the way they see fit.

The language nest runs from August to the middle or the end of June. In July they have a month's break. The language nest building's doors are open Monday through Friday from 7:15 am to 5:00 pm. Instructional hours with children are 8:30 am to 3:30 pm. There are five *kumu*

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[11] *Kapu* can be translated to mean sacred, forbidden, etc. The ancient Hawaiian laws had *kapu*, behaviors that were prohibited. This is cognate with the word *tapu* in other Polynesian languages, and is the origin of the English word "taboo," which borrowed it from Tahitian.

[12] http://www.ahapunanaleo.org/index.php?/programs/youth_programs_-_punana_leo/

(‘teachers’) at this language nest. Several volunteers, sometimes university students from across the street, come in intermittently.

This year (2016-2017) there are 24 children enrolled in *Aha Pūnana Leo o Mānoa*. The maximum capacity for the facility is 25 children. Other *pūnana leo*, such as those in Waiʻanae and in Hilo have 42 children in their preschools, and a separate Hawaiian immersion daycare for infants. Some of the other *ʻAha Pūnana Leo* preschools are for 3 and 4 year olds. The infant program is called *Hiʻipēpē*, and is for infants and toddlers from 9 months old to 3 years old.

There are at least three teachers there at a time every day. On Mondays, Tuesdays, and Wednesdays, there are four teachers present, as one of the teachers works elsewhere part-time. In addition, the *kahu* often comes out of the office and works together with the teachers. The teachers are all fluent speakers who learned Hawaiian as a second language. One of the *kumu* attended a Hawaiian immersion school from kindergarten through 12th grade. Two of the *kumu* graduated from Hawaiian immersion high schools and Hawaiian language college programs. The *kahu*, Lindsey-Asing had himself attended a *pūnana leo* as a young child, and then graduated from the Hawaiian program at the University of Hawaiʻi at Mānoa. Three of the *kumu* also graduated from the University of Hawaiʻi at Mānoa Hawaiian language program.

ʻAha Pūnana Leo o Mānoa accepts children from 2 years and 8 months to 5 years old. Eleven of the 24 who are currently enrolled are “graduating” this year, as they are 5 years old. The other 13 children are 3 to 4 years old. There are 5 different *ʻAha Pūnana Leo* locations on Oʻahu Island. There are also 5 Hawaiian language immersion schools on the island, so that families have options to choose from when their children leave the preschool. Many of the children who attend the *pūnana leo* attend one of those Hawaiian immersion schools when they turn 5. Some of them attend Kamehameha School, which is not a Hawaiian immersion school,

but it is a competitive private school that has some Hawaiian language and culture. The *kahu* estimates that 70-80% of the children in his language nest have Hawaiian language in their home.

Tuition costs about $7,000 a year per child. This cost includes breakfast, lunch, and snacks for children every day. According to Lindsey-Asing, one of the things that has helped most in making the language successful is *ʻohana*—family. This includes the families of the children as well as the warm family culture they have created at the language nest. They are all like a family and interact, as they say, with *aloha*—love, kindness, and warmth. This makes working together more comfortable and they are better able to get things done. This cooperation with families is referred to as *hui mākua*, where *hui* means ‘organization’ or ‘unite’ and *mākua* is ‘parents,’ so it means something along the lines of ‘parents uniting’, or ‘parent group’. *Hui mākua* was started about 20 years ago when *ʻAha Pūnana Leo* was still a young organization, before it had much money. They typically hold annual fundraisers to supplement the cost of additional activities or items for the children, e.g. fieldtrips and shirts, so that parents do not have to pay directly for them. They are wise about how they spend the money, and they do have extra from past years of fundraising. They are also in connection with an organization called *Aloha Harvest* that goes to different stores and businesses collecting food that is still good but cannot be sold. They redistribute the extra food to other charities and non-profits. The *Aloha Harvest* organization will be dropping off extra food at *ʻAha Pūnana Leo o Mānoa*. While the language nest cannot serve the food or drinks from Aloha Harvest on their premises, parents can take it home and use it to help with the high cost of living in the area. The main goals of the language nest are to keep the language alive and strong], and, as they say, to focus on the *ohana* 100%, to love each other and support each other.

One of the challenges they have faced is getting sufficient support in the community, and making it known that they are here, and that the Hawaiian language is flourishing. Once a semester the Hawaiian studies program at the University of Hawai‘i at Mānoa holds a welcome event where people can come together, meet, socialize, and speak in Hawaiian. The language nest director and teachers take the children over to meet with “aunties” and “uncles” and speak in Hawaiian. However, in general a lot of people do not realize that the language nest is right there.

Another challenge they have is that at the language nest children will be speaking in Hawaiian, but when they are on the playground they often want to play characters in the media—in movies and in cartoons. These are all in English, and they do not always have translations into Hawaiian, so sometimes it makes it difficult for children to keep talking in Hawaiian when they play those characters as they get stumped. Language nest teachers have created translations for some of them—e.g. they have translated Spiderman as *Kanakalanalana* (*kanaka* = ‘man’; *lanalana* = ‘spider’), and Superman as *Kanakaikaika* (‘powerful man’). Some other characters, are harder to translate.

As far as resources are concerned, they do have some older Hawaiian videos that have been digitized from VHS. However, they would like to have more options for media to use for language teaching. Lindsey-Asing pointed out that the world is changing very fast, technology is changing very fast, and the kinds of things children like today are very different from the kinds of things our generation grew up with. It is challenging to keep up with the changing world in the language, to keep it relevant to children’s interests.

One of the recommendations Lindsey-Asing had was to focus on the *ohana*. Lindsey-Asing said that the *ohana*, values and *aloha* are the pillars of the language nest. They treat the language nest like it is a shared home for all of the families, and all of the families take turns

cleaning it. The concept is "this is your *hale* (home); you have to clean your house to keep it safe and comfortable for you and your *keiki* (children)." The children's families are put into groups of five families. Each week one of the groups is assigned to clean the language nest 'home' every day. Each group can carry it out however they wish. Some choose to have one family assigned to each day. Others share responsibilities and do parts of the cleaning each day.

4.3 First Peoples' Cultural Council (FPCC)

The First Peoples' Cultural Council (FPCC) is an indigenous organization in British Columbia, Canada. The FPCC serves as one of the members on the General Council of the Endangered Languages Project. Aliana Parker works as a director in the FPCC grant-funding agency. They offer a variety of funding programs. One of those is a language nest program. Communities throughout British Columbia can apply.

There are 34 distinct indigenous languages in British Columbia, which is 60% of Canada's first nations languages. British Columbia has the highest language diversity of any province in Canada. The FPCC collects accurate and up-to-date information on language speakers of various bands in the province. In their latest survey, 4% of band members were fluent speakers. Of those 4% who were fluent speakers, 60% or more were 65 years old or older.

The two biggest challenges for language nests that Parker reported were (1) funding and (2) finding fluent speakers. Those starting language nests are starting from scratch, creating all their own language resources, as many languages have no existing resources.

This past year (2016-2017), the FPCC funded 12 language nests. FPCC grants are $20,000 each (Canadian dollars). Each nest operates differently, so their budgets look a little different. Generally, it costs about $75,000 to $100,000 a year to run a language nest program.

This means that as helpful as the FPCC grants are, they are only around a quarter or less of the total annual cost. All nests are accessing funding from multiple sources in order to operate.

If a community in British Columbia wants to apply for the FPCC grant, the process begins with FPCC sending out a call for applications. The community needs to fill out an FPCC form and submit it. They are required to know beforehand what a language nest is and how they want to set up their language nest. The applications go through a peer-review process. FPCC does not make funding decisions. Rather, they bring together a committee of peer reviewers of first peoples. This committee makes recommendations about which applications should get funding.

Once applications are selected to receive language nest funding, the staff are sent for a two-day intensive workshop on language nest training. The language nest training participants are composed of a mix of elders and program administrators. The training includes the following topics: language acquisition; debunking myths about bilingualism; strategies for language development; strategies for how to create an immersion environment; and how to run a nest.

The language nest runs for about a year. At the end of the year they are required to submit a final report. FPCC only provides funding annually. There is no multi-year funding available. Some language nests have applied for several years in a row and have been successful.

The FPCC has two other funding opportunities for language programs, beyond the grants specifically for language nest. These are open-strategy. One of these funding opportunities offers up to $35,000; the other can be up to $15,000 per program. These two funding programs are:

> (1) An aboriginal languages initiative that funds up to 30 different projects ($35,000) (everything from documentation to language camps, creating signage, etc.)

(2) A British Columbia language initiative program for 12-13 programs ($15,000)

Of the 12 language nests that received the FPCC language nest grant, three of them also applied for one of these other funding opportunities in addition to the other $20,000 of funding. A thirteenth language nest, not included in the first 12, applied for funding from one of these two grants and did not apply for the language nest-specific funding. These two funding programs, like the language nest funding, is only for one year. Each year groups must reapply.

Not all of the language nests that are operating will continue to operate the next year. According to Parker, most of them are struggling. Many language nests start up one year and may not continue the following year. With the language nests that fall apart, someone wants to start one. It is difficult and they do not have an understanding of what it takes to do it—the necessary resources, support, etc. Sometimes the person who started it chooses to move on to something else, and it falls apart without that person there.

When asked what is done differently at the language nest that continue successfully from year to year, the three factors mentioned were: availability of speakers, resources, and funding. However, the primary factor related to the program coordinator—who that person was, what their knowledge level of language nests was, what was happening in their life at that time, and if they had the time to commit. If a program has someone who really understands the vision of language nest and has the time to devote to it until they can build up program stability, then the language nest can survive. It requires commitment.

The *Language Nest Handbook* published by the FPCC was co-authored by Kathy Michel and is largely based on research conducted by Michel, the coordinator of the Cseyeten Language Nest (formerly known as Secwepemc Ka), a Secwepemc language nest. The FPCC's training and resources are also based on language revitalization research in Hawaii and in New Zealand.

Parker observed that the idea of a language nest is very popular in British Columbia—"It's a bit of a buzz word. People hear it and they really like the sound of it, so they apply it to whatever they are doing with children and language." Parker expressed the opinion that this "leads to weakening of what a language nest is. People are saying 'We run a language nest,' but it's an English-based program with some language instruction." The FPCC is attempting to build clarity on the definition of a language nest and ensure its quality using a variety of strategies. These strategies include the aforementioned mandatory two-day training workshop for language nest grant recipients, a thorough *Language Nest Handbook*, available in booklet form and also as a pdf online,[13] and additional requirements for funding. These requirements to define one's program as a language nest by FPCC standards in order to apply for and receive funding are:

- the program must have at least two fluent speakers
- there must be at least 15 hours of language immersion each week
- a minimum of one speaker per every 5 children (no more children to speakers)
- all non-fluent staff have a language learning plan

With these new standards, some programs that had been applying for funding were no longer able to. Parker added that "A lot of education is needed around 'What is a language nest?'" and "Why is it the way it is?" as well as, "What is immersion and why do you actually need it?" Regarding the "vision of a language nest," she stated that:

[13]http://www.fpcc.ca/files/PDF/Language/Language_Nest/FPCC_LanguageNestHandbook_EmailVersion2.pdf

> Wherever there is a strong language nest running, there is at least one person that really has the vision strong for what a language nest is, and is committed to it. They are able to communicate it and pass on that vision to others in the community. It is very difficult to do. How do you effectively share a vision with somebody else? (Aliana Parker, p.c. 2016)

Parker has observed that in order for a language nest to keep running successfully, it requires someone who has the vision of the language nest physically working in the nest themselves throughout the duration of its existence. For example, "The coordinator has the vision. They apply, get funding, put in fluent speakers and Early Childhood Education teachers." The other language nest staff might attend a workshop, but they do not necessarily "get the vision themselves." "Unless the coordinator is able to work in the language nest themselves and be that person in the language nest with the vision or create the vision in someone else," it will not succeed. "Even elders and fluent speakers…often don't understand why they need to speak their language." Sometimes "elders are speaking in English." One of the challenges is "somehow giving the vision to the people working in the nest, because immersion is so difficult." Four to five of the 12 language nests have been running for five years or longer. An additional three programs have been running for a few years.

Parker recommends "Building language learning pathway from preschool to high school," so that each language nest will have that support and follow through, so that all those efforts can lead into more language learning and not be wasted.

4.3.1 SENĆOŦEN

SENĆOŦEN (also Senchathen or Saanich) is a Salishan language spoken in British Columbia, Canada. An interview was conducted with Tye Swallow, a former teacher at the SENĆOŦEN adult center who currently serves as an administrator/facilitator of Language

Revitalization at the W̱SÁNEĆ School Board (WSB). Swallow was familiar with the language nest that fed into the immersion school. Language nest teachers were willing to be interviewed but were unavailable before this dissertation needed to be submitted. The information provided here is from Swallow.

The SENĆOŦEN orthography was developed by an elder who worked as a custodian and was concerned about the language decline. His daughter was trying to learn it from him. He invented it using symbols available on a basic typewriter to make it more accessible. At that time, it was too expensive to buy an IPA or APA typewriter. His children then taught the orthography at schools.

There are 2500 people on the reserve. SENĆOŦEN is the only First Peoples' language on the reserve. British Columbia has a high density of language diversity, with 34 different languages (60% of languages in Canada). Six languages are spoken on Southern Vancouver Island alone. The two closest languages are lək̓ʷəŋiṅəŋ (Songhees and Esquimalt) to the south and Hul'q'umi'nem (Cowichan) to the north. Swallow stated that "SENĆOTEN is the only language taught in the school, but some of our children come from families that might identify with Hul'q'umi'nem or other languages."

There are also sleeping languages nearby. Currently there are one to three people who speak SENĆOŦEN natively. The people had not used their language in a long time. It is critically endangered. According to Swallow, SENĆOŦEN is closely related to Halkomelem (Hul'q'umi'nem), and the two varieties used to be mutually intelligibility.

The SENĆOŦEN band has a website,[14] where SENĆOŦEN vocabulary words are available for learners. They currently have 726 words and 1325 phrases archived, as well as a SENĆOŦEN app to assist with language learning. There is also a band-operated school.

In 2009 they started an apprenticeship program that produce three people who became proficient second language speakers. These became teachers for the language nest. The government provides $4,500 per student. There are governmental regulations for ratios of the number of teachers to children present in the daycare or preschool. They later hired six language learners who had experience and/or education in Early Childhood Education (ECE). One of the six earned a BA in language revitalization in 2014.

The SENĆOŦEN language nest is called LENOŊET SCUL,ÁUTW̱. From January to June of 2012 the language nest used funding from the First Peoples' Cultural Council (FPCC) to run a pilot program. They were able to hire a certified ECE teacher. The first full cohort for the language nest was from September 2012 to June 2013. These were four year olds who started kindergarten in the fall of 2013. The language nest currently operates from September to June. They created their materials from scratch. There is currently an established SENĆOŦEN immersion language nest and kindergarten.

In 1980 a linguist from the University of Texas worked with the band. They have been developing a dictionary for the past three years that is expected to be published in 2018, and they will be starting to develop a grammar in the near future.

The daily responsibilities are very hard work. They are constantly working to find funding for elders and for translations in SENĆOŦEN. The school is a band-operated school. It is not connected to governmental schools. They are still required to follow prescribed learning

[14] http://www.firstvoices.com/en/SENCOTEN

outcomes. However, they are just doing it in SENĆOŦEN. “We never asked permission; we just did it.” This seems to be a pattern in several of the language nests in different areas of the world where there has been any history of governmental resistance to the indigenous language or culture. One thing that helped was that they already had the infrastructure for the schools. There was an elementary school from kindergarten to 5th grade, and an upper level school from 6th grade to 10th grade, as well as adult classes. They just needed the language.

The language nest has two groups—a morning session from 8:00 am to 11:30 am, and an afternoon session from 12:00 pm to 2:30 pm. There is a daycare department with three sections: (1) infants and toddlers; (2) three to five year olds and (3) a language nest preschool. Those in the language nest preschool move up to the elementary immersion school upon “graduating.”

There are requirements for language nest teachers. In order to receive governmental funding, the language nest has to be a licensed preschool and follow standards. It is monitored periodically to ensure the standards are being followed. There is one certified teacher and one apprentice. When they first started the program, they had more teachers. There were as many teachers as there were children—six teachers, 3 elders, and six children.

There are currently 16 children enrolled in the language nest. Typically, only four year olds are allowed to enroll in the actual language nest. They do allow two 3-year olds into the program for free. These children become the leaders in the program the following year, as they are already familiar with the language nest and know more of the language. Having these kinds of leaders makes the new incoming children more comfortable and more apt to use the language.

This year 14 children enrolled new, as the capacity is 16 and 14 graduated last year. The two who re-enrolled this year are the two leaders who entered as 3 year olds last year. Language

nest data was not available at that time, but from Kindergarten to 2nd grade, 90% of instruction in band-operated school occurred in SENĆOŦEN.[15]

4.3.2 Tahltan

The Tahltan language is an Athabaskan (or Dene) language spoken in British Columbia, Canada. The Tahltan language nest called K'asba'e T'oh was established in 2014. Odelia Dennis is the language nest coordinator. The nest runs from September to June, four days a week (Tuesday through Friday), from 1:00 pm to 4:30 pm each day it is open. There are three language nest teachers—two fluent speakers and one semi-fluent.

Six children are registered at the language nest. On a typical day, four or five children are present. Sometimes there are two children if the other children get sick; other times all six children are there. There are always all three teachers present, unless one of the teachers cannot make it, which is the exception rather than the rule. On those days, there are two teachers. There is always a minimum of two teachers. One is only semi-fluent and expressed the need for more speakers. The other two teachers are fluent native speakers of the language. The two fluent speakers learned Tahltan as their first language. They were described as "re-emergent speakers," meaning although Tahltan was their first language, over the years they had switched to English. They started going back to using Tahltan for the language nest.

When the language nest first started, it was not full immersion at all times. It has taken two years to get the language nest to full immersion. The two native speakers had not spoken

[15] The language nest teachers, Swallow, and I had discussed setting up an interview time, but we were unable to do so before the submission of this paper.

Tahltan in years. Because of the language nest, they are speaking more. Having two native speakers there, they are able to help each other remember words and parts of the language.

The language nest gets funding from the First Peoples' Cultural Council (FPCC). One of the FPCC requirements is to do a "language needs assessment." They have to fill it out before they can apply for funding for the language nest. At the time of the interview, they had just finished conducting the language needs assessment the week before. There are 18 fluent speakers. There are 20 semi-fluent speakers and more people are learning the language. Some in the community are working on documenting the language. Some are working on a language app. Now there are more people learning Tahltan as a second language than speak it as a first language. According to the coordinator the language is "not is a good stage," and reported that it was a "scary thought to think of our language going extinct in a few years."

The advice they offered to others who are considering starting a language nest was that if they "have the expectation of full immersion at first it could be discouraging," but that if they persevere, "eventually it [full immersion] could happen."

If the language nest people did not know how to say something, they asked other fluent speakers. They asked fluent speakers if they would be willing to work in the language nest. They had two semi-fluent speakers that became highly fluent by using the language more.

One of the challenges is that most of the fluent speakers are elderly and do not have the energy to work with small children. Some of them do not have much mobility, to the point that it is difficult for them to walk in their own home; keeping up with young children would not be feasible. When there are elders who are not mobile, they are interviewed. Those interviews are kept for language archives.

All of the teachers are able to have conversations in the language. They can describe things, give directions, talk about the weather, talk about every-day things, and can talk in past tense. Some "complicated sentences" are "difficult;" some are "okay."

There are six children in the language nest. The language nest would accept children from infancy to four years old. Of those currently enrolled, two are 1 year old, two are 2 years old, one is 3 years old, and one is 4 years old. The four-year old turned four in October and is "aging out." They will be allowed to attend until June. Children cannot attend when they turn four years old, because they speak too much English by that age, and they "bring too much English into the nest to the other children."

The main objective of the language nest is to expose children to the language as much as possible. When children turn four, they are allowed to finish that year in the language nest. After that they go to kindergarten in English. There are no Tahltan immersion schools yet. They are hoping to work toward having immersion schools. In order for that to happen, they "need more adults" who know the language.

This year, there were three new children enrolled in the language nest for the first time—a one year old whose brother was already in the language nest, and two 2 year olds. The other three children re-enrolled and had been in the language nest last year. Last year three children "graduated," i.e. they turned four years old and could not come back.

They have been lucky to have families that have a lot of interest in having their children attend the language nest. Last year there were a couple of children who attended part-time. There are also really dedicated parents who brought their children every day the language nest was open.

It was noted that it "does not work well" if parents are not dedicated and bring the children to the language nest only two times a week. It is also not good on days in which only one child is present, as the child gets sad and lonely without other children around to play with. It is important to have dedicated parents who bring their children in every day. If parents do not consistently bring their children in, the language nest places them on part-time. They have found that it is best to have contact with parents face to face when they come to pick up their child. However, having six children at the same time was too much, as teachers were overworked changing diapers and getting food. there was no time to teach and read to children. When parents are put on part-time, they were asked which days worked best for them. It is not uncommon for one of the kids to be sick or out of town, so now it is rare to get all six children at once. There are usually five children at a time now. If they had five children with three babies, that would be too much. The babies that are crawling still have to be carried some of the time. All of those who could re-enroll did. Parents of children who turned four were disappointed that their child could not come back.

When teachers are talking to other teachers, they speak in Tahltan 80% to 90% of the time, even if they are talking about other matters that do not have to do with the language nest. There are no other staff than the three teachers. They like to keep it that way, because more people would increase the likelihood of children hearing English. When teachers are talking to children, they use Tahltan 80% of the time. When children speak to teachers, they use the language about 20% of the time. When children are speaking to each other at the language nest, they speak in Tahltan approximately 10% of the time. Dennis expressed the challenge of getting children to produce the language: "For some reason we're not giving them enough to speak; the input level is not high enough…grammar…none [of the children] are fully fluent." They are

trying to figure out “why children choose to speak in English.” One of their strategies to motivate children is to develop games in which children have to speak Tahltan to win. They used to think it was because the parents were not using the language at home, but they have seen French immersion programs that produce fluent speakers, even when there is no French spoken in the home.

One of the six children currently enrolled has grandparents who worked at the language nest. They spoke the language at home. That child has “strong language.” One of the four year olds understands the language very well and is “so close to speaking. If someone at home spoke to her in the language” just a little more, teachers feel she would be able to produce. One of the children attends an English preschool in the mornings, as the Tahltan language nest runs in the afternoons. The English preschool has a Tahtlan language program for 30 minutes each day. That child does not have grandparents who speak the language.

When asked what has helped this language nest be successful, the answer was “parents’ dedication.” It is important the they bring their children every day.

Some of the challenges have been a lack of interest in participating, a lack of fluent speakers, and speakers not being available to work in a preschool/daycare setting. One of the challenges has been families not being interested in bringing their child to the language nest. They have had to actively look for families. They do not wait for families to approach them to ask to be in the language nest. They have called around and some are not interested. Others have expressed interested and have taken an application, but they have not filled it out or submitted it.

As a free service they offer language sessions in the evening for parents and sibilings. They do not charge families. Some people are intimidated by the language and think that they have to learn it if they bring their child to the language nest, and they do not want to. One of their

children has been exceling in school and has been at the top of her class in the language program. If the language nest enforced language lessons for parents, they may drop out of the language nest.

Another challenge is maintaining an immersion setting when parents come in, as it seemed like the fluent speakers wanted to make the parents feel comfortable, so they spoke English to them. The coordinator is still trying to figure out how to eliminate English when visitors come in. They offer a 90-minute adult language class once every two weeks.

Although immersion programs have yet to be developed, there is some language support follow up available for children after they graduate from the language nest. There are Tahltan language classes in preschool, elementary school, and in middle school. There are no language classes in high school.

When asked about any other thoughts she would like to express about the language nest and/or language revitalization in general, Dennis said that it would help "if all the people who are operating language nests and parents who bring children to language nests" could trade resources. She shared the idea of having a worldwide conference on language nests for parents and teachers.

Even if there are only semi-fluent speakers of your language, it is worth it to give it a try (to start a language nest).

Advice she would give to communities that are thinking about starting a language nest is that "they should visit one of the full immersion language nests; my visit to one made me believe that we could have our own; when we were thinking about it [we] kept having doubts; when we visited and saw it, it made me think, 'we can do this'."

4.4 Ojibwe

Ojibwe is a Central Algonquian language spoken primarily in Quebec, Manitoba, Ontario, and Saskatchewan in Canada, and in Michigan, Minnesota, and Wisconsin in the U.S. Waadookodaading is an Ojibwe language nest run by the Lac Courte Oreilles Band of Lake Superior Chippewa, also known as Anishinabeg in Hayward, Wisconsin. The contact person for the language nest is Brook Ammann, its administrator. The website is waadookodaading.org. The main language being revitalized at the language nest is Ojibwe. They try to do Southwestern Ojibwe. The language nest works with a linguist. The teachers at the language nest have learned the language in different places from different people. They use the local dialect. However, the directors of the language nest do not prevent them from using dialects. They try to expose the children to different dialects when possible. The linguist works with the teachers so they are aware of the different dialects. There is not only one right way. Sometimes when you end up with only one or two speakers there can be contention about the right way to say something. In Canada Ojibwe is still a first language for communities. The language nest has used archives and recordings for information on local dialects. There are only two speakers left in Lac Courte Oreilles.

The language nest schedule follows the elementary school year, which begins in the last week of August and continues through to the first week of June. In June and August, they have ceremonial lights. There are medicine dances in the summertime. A lot of parents and teachers are involved in that. It's a healing ceremony. They hear a retelling events in their history. All of this is done in the Ojibwe language. This makes the whole year very busy, as they have that going on in the summer, and the language nest running throughout the rest of the year.

There are two teachers at the language nest—one teacher and one trainee. Both adults are in the class at all times. The head teacher is in a Master-Apprentice program, interacting with different speakers, collecting stories, transcribing, and working with the university. They are one of the founders of the school. The trainee can learn the language on the job from the teacher. If the trainee has not taken formal classes, they can be immersed in the language on the job.

Eleven children are attending the language nest. The nest has a maximum of 12 children. They currently only accept children who are four years old. In their experience the four year olds who attend the language nest are the best prepared for the Ojibwe immersion kindergarten. Their hope is for the trainee to teach three year olds and for the head teacher to be with the four year olds. They were originally trying to be true to Ojibway family structure, in which everyone would just be together. When they add expectations that they did not have before—e.g. literacy—it is easier and works better to have the children separated by ages.

Two years ago they mixed three and four-year olds. Last year, 2015-2016 was the first year that they decided to switch to 4 year-olds only. Of the 4 year-olds who attended last year, 100% are in an Ojibwe immersion kindergarten this year. A 11 of the children attending this year are enrolled for the first time, since last year 4 year-olds all "graduated" to kindergarten. In 4th grade children start taking English as a subject in the immersion school. They participate in assemblies and regular school activities. They have Ojibwe language immersion available until 7th grade.

When teachers talk to children they use Ojibwe 100% of the time. When teachers are talking to each other, they use Ojibwe 100% of the time unless there is an emergency. Once a week a linguist does an observation. He works with each teach individually for personalized

language development. They learn more vocabulary, review parts of the grammar, etc. He also teaches Ojibwe at a college.

When children are talking to the teacher, the percent of the time they use Ojibwe varies. Some children are more reluctant. In teachers' perceptions, some of the children have not decided they are going to speak yet. However, in the language nest the expectation is that they are focusing on the children getting input rather than expecting output yet. When the children are in 2nd and 3rd grade teachers focus more on output and error correction at that age. In 4th and 5th grade children learn more Ojibwe grammar.

Advice they had was that there are a lot of new programs, and there almost seems to be a trend of starting a new language program, sometimes without understanding that there is a necessary process and sequence. Establishing a proper language nest requires a lot of planning. They recommended being very thorough and thinking everything through. Ammann expressed: "I don't want to see people spending time doing something [when there's something else] that's already been proven to work." She also said that it "could save people of lot of work" by sharing information from older programs and learning from them (which is one of the primary objectives of this dissertation). Amman added, "When you're planning the nest, it's never going to be just that. When they get to kindergarten age, you won't want to give them up. After all the effort, nobody wants to let that go…to all English," since the only exposure they would be getting would be at the school. In other words, planning a language nest usually turns into planning a language immersion kindergarten to follow up, and then the rest of the K-12. As encouragement, Amman said, "When you're actually done, you can see them speaking and thinking in the language.

When children are talking to each other while at the language nest, it is mostly English, since they are all coming in brand new to Ojibwe language exposure. There is a little "Ojinglish," as they call it, towards the end of the year—where children begin to mix Ojibwe and English. In kindergarten, 1st grad, and 2nd grade children get rewards for speaking Ojibwe only. That age "loves rigid rules and [they] love enforcing it with each other." They try to stay in Ojibwe all day. Even when children from the Ojibwe immersion school see each other at the store in the community, they use Ojibwe as a code language with each other, so no one else can understand them. Siblings also talk to each other in Ojibwe so that their parents will not be able to understand.

One out of the 11 children in the language nest has some family member who can speak the language with them at home. Ammann reported, "We don't really have it as a home language; we have the generational who will speak it in school right now." The children's parents' generation typically does not speak it.

Ideally, they would like to have one teacher, one L1 speaker, and a trainee on staff at the language nest. To fund the language nest with that staffing and other costs, it would be about $185,000 a year. Even more ideal would be to have a number of adult L1 speakers, so they could speak to each other and model natural language and conversation for the children. They would still keep the linguist who offers language development skills. he helps the teacher and trainee to be more confident speakers. Their continued language growth in turn helps the children. Having all of that would cost about $200,000 a year. Having someone to keep the language nest clean and to have the facilities follow childcare center standards was estimated to cost an additional $50,000. The language nest runs from 8:00 am to 3:30 pm (7 ½ hours) on weekdays, and the

children eat during that time. The food for that time also incurs expenses, although the majority of expenses come from staffing.

Some of the factors that have helped the language nest's success include the head teacher, Lisa Navar. She was actually one of the founders of the immersion school. She has done a lot to learn from other programs, observing and compiling best practices, and incorporating them. Another factor contributing to the success of the language nest is:

> …the families who really put their faith in us and trust us with their children. We always have people who want their students here. They're really supportive of the work. A lot of them aren't speakers. It takes a lot of trust and courage to hand your baby over to people to teach your child a language you don't understand…which has been done before forcibly… (Brook Ammann, p.c. 12.27.16)

Ammann's insight refers to the past when the U.S. government forced indigenous children to attend English schools and prohibited them from speaking their native languages. The parents now are entrusting the language nest with their children although they themselves do not speak Ojibwe. Ammann said these language programs are "restoring their trust in learning"—that sending your child to a school can actually reinforce your child's cultural identity instead of attacking it.

The main goal of the whole institution is to ensure that "Ojibwe remains a spoken, living language." They are always evaluating to see how they can improve. The idea is that the earlier they can get the children started in the language, the better.

One the language nest's challenges is having enough resources—human resources, facilities, and making payroll. Another challenge is "people having the misconception that it's

just about language; it's education. We're trying to educate people." A third challenge is that the funds necessary are not available. There is no tuition, so they are always seeking funding.

When asked what she thought would help the children learn the language even more, or what her ideal language nest would look like, Ammann said an L1 speaker, native speakers, and more speakers would help. In addition, having more things in the language in the community would help, e.g. signs in Ojibwe. Also, steady funding would help so that the language nest director and teachers could focus on other things.

Ammann has been working with the Ojibwe language nest for 7 years. She is the longest lasting administrator it has had, and could write a book from everything she has learned in the past 7 years. When asked what advice they would offer to others who are interested in establishing a language nest, Ammann replied that there were so many things that she could not think of just one. The first point she made was that in order to run a language nest, one must be able to multi-task, because there are so many different elements going on at once. Ammann herself has two children as students. She expressed that because of this personal investment, the stakes were high for her: "I have my children. I can't fail or we'll fail them." As they take on more students, she feels responsible for people and takes that seriously. Ammann did not choose this path for herself or for professional aspirations. She said, "I wasn't planning this for my life." The opportunity came to get involved, and she felt that it was a "scared responsibility." "I believe in the power of the language" and "our connection to everything," she continued. The last insight Ammann offered was that in order to establish and run a language nest, it is essential to believe that it will work. She also noted that sometimes "people want to be a part of indigenous language revitalization because it seems cool" or for their own career. The difference between a successful language nest and one that does not succeed is dependent on long term

commitment versus short term dabbling. If people want success in language revitalization, it requires people who passionately believe in it "instead of it just being a job." Ammann said that "the language will bring the right people to the work," that "we start with prayer and offerings," and "you have to be prepared to do that [and to do] reflection," adding that "being humble" and "asking for help" are also integral to establishing a successful language nest.

4.5 Lakota

The Lakota Language Nest is called Lakȟól'iyapi Wahóȟpi, and it is located in North Dakota. The teacher of the language nest is Tipiziwin Young. The main language being taught at the language nest is Lakota, a Siouan language. It opened in August of 2012, with a Master-Apprentice team. Tipiziwin Young was a language apprentice at the time. It runs from September to the end of May, coinciding with the school year. The language nest is open four days a week—Monday through Thursday from 8:00 am to 4:30 pm.

One of its challenges has been a high turnover rate, as working in a language nest context requires a great deal of dedication to the language and the energy to keep up with children. In the first year, one of the language nest teachers had 20 years of experience working as a preschool teacher. Working in the language nest proved to be more challenging, and the teacher quit after two months. A new teacher was hired—a man in his 30s. He lasted working at the language nest for give months. After that, one of the parents taught at the language nest for one year then resigned. Every year the language nest had one teacher come and go. This past year (2016-2017) they hired another fluent speaker and part-time teacher. Their plan is to have two fluent speakers and two apprentices. There are typically three to four adults present at one time. Two of the

teachers are native speakers of the language; two of the teachers are fluent speakers who learned it as a second language.

There are 16 children in total attend the language nest. They have a maximum capacity of 30 students. The greatest number of children they have had enrolled so far was 22. Parents have requirements in order to enroll their children. Parents are required to participate in language learning classes and to pay tuition.

The language nest has two classes—one for younger toddlers age two to five, and one for older children, aged six to eight. There are eight children in each class. The class for younger children accepts children as young as three years old, or even two year olds if they are potty-trained. In the younger classroom there are two three-year olds, four four-year olds, and two five-year olds. Five children enrolled for the first time this year. Three of the eight children had attended in the previous year (2015-2016), and re-enrolled this year. In North Dakota, children have to be six years old by September 1 in order to enter school. Two children "graduated" from the language nest last year. One of the two enrolled in a Lakota language immersion school. One of the children chose to go to a different school. There are five different schools children could attend after the language nest.

The language used the majority of the time at the language nest is Lakota. When teachers are talking to other teachers at the nest, they use Lakota 100% of the time. When children are talking to each other while at the language nest, they use Lakota about 25% of the time, since some of them are being exposed to the language extensively for the first time.

Based on their experience, the cost of running a language nest at the bare bones minimum would be about $100,000 USD a year. They receive most of their funding from an Administration for Native Americans grant. Tuition from parents helps to keep it running. One

year the budget was going to run out at the end of June. They had an unplanned visit from someone from Minneapolis who decided to stop by the language nest for 15 minutes. That individual had received a $50,000 award. She decided to give the entire award to the Lakota language nest, which allowed them to keep their doors open and continue to function until they were able to procure more funding.

When they first had the idea to start a language nest, they applied for and received a three-year planning grant. After the three years of planning, the language nest has been running for five years, so it has been a total of eight years since its inception. In the planning stage, the planning team visited a Mohawk language nest on the Ahkwesahsne reservation in upstate New York (which participated in the picture task activity in this dissertation).

When asked what some of the things were that have helped the language nest be successful, Tipiziwin Young answered, "For me, I was on the planning team, and it was huge for me to see with my own eyes that tribal language immersion is doable." Of her visit to Ahkwesahsne, she said, "[It] was my first time seeing a [tribal] woman my age who could speak her language." At the outset of the endeavor, she never imagined she would be the person to continue running the language nest. She is a second language learner. She said it was "powerful and amazing to see…young second language learners."

As for the goals of the language nest, they have seen that directors come and go, and that co-teachers come and go. She said that the "goal is for the language to live in all the spaces it previously existed, and for it to find its way into the places and spaces that are new."

Young has a very positive and resilient attitude. When asked what some of the challenges were that the language nest has faced, she said that the "challenges are great. I try not to focus on them. Capacity building." She said that finding teachers for the language nest was one of the

greatest challenges. There could be "amazing second language learners, but [they might] not necessarily be a good fit to work with young children." Just because someone is a fluent speaker, it does not necessarily mean they will enjoy working with young children, which requires, "being dynamic, having lots of energy." She said that children can be "so upset one moment, and fine the next moment. Working with young children is not for everyone." The requirements for finding a language nest teacher are finding "the right people who are dynamic, willing to be patient and loving, and do it in Lakota." That was the "hugest obstacle" they faced.

When asked what other advice she would give to people who are considering starting a language nest, she said: "It's really hard work, but it's really good work. It's rewarding. It's the hardest work. We have a lot of social ills." Young described the challenges her tribe faces, more than the average demographic in the nation. She advised, "If you can find tribal members who are willing to work together, you can do things that will help your tribe and help the future. You have to be willing to work together. There are not immediate results." However, she continued that if people persevere, they will see "really great and meaningful results for the children and what they're doing for their communities." "Don't abandon the work. The rewards will present themselves and they'll be worth it."

In the first year the language nest was in operation (after the three years of planning), they went to *Aotearoa* (New Zealand). They visited six immersion schools and about three *Kōhanga Reo*, Māori language nests. They were also able to meet with the administrator over all of the *Kōhanga Reo* in New Zealand. It was "definitely helpful," and if they could return and ask more questions now at this point in their years of experience with the language nest, they would have a "different set of questions." They would also record their conversations with the director of the Māori *Kōhanga Reo* if they could. Topics they would want to ask more about would be:

questions based on youth curriculum, seeing different lesson plans, daily routines, and basically the logistics of running a classroom on a daily basis. These types of questions did not occur to them in the beginning because everything was so new. They would also want to ask about how many of the teachers in other language nests were second language learners vs. first language learners—one of the questions in the language nest interviews in this dissertation. While in Aotearoa Young heard about language nests in some areas that were more socioeconomically depressed, and other language nests in more affluent areas. One of the older teachers said that the language nests in the less affluent area had just as quality Māori language if not better than the programs in the affluent areas. This was encouraging for her to hear, the language success of less affluent language nests was more applicable to the Lakota language nest situation than visits to very wealthy areas. The Lakota language nest is located in Sioux county, North Dakota. She said their county was considered perhaps the poorest county in the U.S., and that it had the poorest health in the U.S. Young explained that "people are not expected to live long, and the quality of life is not great." She stated the "Regardless of socioeconomic status, the language was just as quality," and that the "quality o the language can still be just as good in a place that faces a lot of social ills."

When visiting another tribe's language school, an elder told them something that she said was very difficult to hear. He said, "I want to tell you girls something. I want you to listen and never forget this. You cannot save your language for your people. But this is the part I want you to remember. You can save it for those of your people that care enough to learn." Young expressed that at first she wondered why he would say that, as it sounded so fatalistic. However, she now says that "seven years later I know exactly what he meant. We can provide all of the

resources, baby-sitters…to encourage parents to take this language journey with their children," but, "We can't force anyone to want to learn."

Tuition at the language nest is $2.50 per hour of childcare. At this rate, a parent could sent a child to the language nest for 7 hours/day, the four days a week it is open (Monday through Thursday) from September to May (with holidays off, as it coincides with the school schedule) for $2,250/year. This is extremely affordable compared to some daycares in the U.S. that cost a couple thousand a month.

Young's home is right at the edge of the Missouri River at Standing Rock. She asked people to call their representatives. According to Young, in Lakota culture water is considered the "first medicine." Water is a part of Lakota creation stories and every ceremony. She said, "It's an integral part of who we are." She asked us "to not forget our people. We're still here. There are still some monumental challenges that are tied to that first wave when non-tribal people came and the devastation that they did, and it's so unfair. And it's so hard. And it's still happening." Young added that, "Our children, they will live at Standing Rock no matter what the outcome is, and we don't have any other place to go. It's our home." They live in a very rural area with a lot of deer, antelope, pheasants, and other wildlife. About a five-hour drive north they enter "oil country." When they had to pass through it once, they observed that "there were no animals; there were no birds flying. It was dead." She described the effect on the land by saying "It was eerie and sad, scary and dark. It's a nightmare." They are worried that bringing the oil pipelines into their area will result in their now lush land transforming into the lifeless land of the nearby oil country. She expressed a cultural connection between the land and the language: "Our language lives in this land. That's where the life of our language comes from—this land. It's all under threat right now. It's all under attack."

In addition to the environmental, social, and health challenges they are facing, Young said that they are also preparing for when their language nest grant runs out next year, and that the "sustainability we're looking for is threatened."

4.6 Alutiiq

The Alutiiq language is a Yupik language, part of the Eskimo-Aleut language family. The Sunaq Kodiak tribe recently opened an Alutiiq language nest opened for the first time this year (2017) on Kodiak Island. At the time I conducted the interview, it was two weeks before they would be opening the language nest. Due to the timing of the interview, the questions were answered in terms of future intentions for the language nest.

In June of 2016 they applied for an Administration for Native Americans (ANA) grant called the Native American Coordination grant 1/5 I the U.S. They have a curriculum from grade school to adults. With the grant they are starting a language nest. It is a five-year grant. They will run a pilot language nest for 4 ½ months in the beginning of 2017. In the fall they will start again, for a full nine months. Currently five children are enrolled. The nest will be open Tuesday and Thursday mornings. Each year it will increase by one day a week, so in September it will increase to three days a week. In the third year the language nest will run four days each week, and in the fourth year they continue to have it open four days a week, or they may increase it to five days a week. It is open from 8:30 am to 11:30 am or 12:00 pm.

The entire staff consists of three people. They have also contracted local people who have additional jobs; some even have fulltime jobs outside of their contracted work with the language nest. The language nest administrator developed the policy and procedures.

The main language being revitalized at the language nest is Alutiiq. The children's first language is English. Their strategy is to speak only Alutiiq in the nest. They are set up to have two teachers at a time. There will be two teachers to five children. They can also have elders and guest presenters. There is also a high school student who is volunteering and can help in the morning. She understands and is studying the language.

The three teachers are Michael Bach, Candace Branson, and Marya Halvorsen. Each had a different path to learning the language. Bach has been learning the language through different jobs and community events. His approach is to never stop learning. He has been talking with elders for five to six years. He has also studied on his own.

Branson started learning the language in 2010. She had joined a language club, took notes, and studied. She started learning in a Master-Apprentice program. She started meeting with elders. The Master-Apprentice program was in the early 2000s. In 2011 she did individual mentoring and took high school classes in the language. In 2012 she studied it in college.

Halvorsen decided to study Alutiiq because of peer pressure—all of her friends were learning it. She received an ANA grant to create preschool lesson plans. She also has experience working for a local tribal museum and has studied the language in college classes. All of her friends are language learners.

There are 30 fluent Alutiiq-speaking elders on Kodiak Island. Four to five work consistently with the language nest. There are about 10 learners who have been learning the language for about 12 years. They are fluent enough to have conversations and teach classes. Alutiiq sentence structure is difficult for learners. Most learners are at an intermediate-low to intermediate-high speaking level. There are also advanced speakers who forgot the language and who are relearning it.

In the 1960a Jeff Lear from the Fairbanks University of Alaska developed an orthography for Alutiiq. Most of the community likes it. A few prefer the Cyrillic orthography for Alutiiq that was developed in the mid-1800s. Russian Orthodox who came to the area in the 1800s wrote and translated materials into the Alutiiq language using a Cyrillic orthography. The content in Cyrillic is an intermediate-advanced level of the language. Content written in the Gregorian alphabet tends to be at a beginner level of the language. Language learners feel that they must first learn the modern orthography and then if they want to progress by reading more advanced materials in Alutiiq, they need to learn the Cyrillic orthography. In 2011-2012 a Russian woman moved to Kodiak Island. She reads the older documents in Cyrillic that are housed in local archives. These older documents continue to be used. She also has taught people to read them. When asked if the early writings could be transliterated into the modern orthography, that did not seem like a viable option. Some felt that Cyrillic better represented some of the sounds in the language that the modern orthography did not. Some elders feel strongly about it. In addition, there is an urgency as the last natively fluent speakers are fewer in number. There is limited time. There are limited resources. Transliterating the older documents is not the number one priority in this critical situation with such limited time, limited money, and limited speakers. Documenting elders speaking to each other and creating new speakers is a higher priority.

The language nest can accept up to 10 children ages three years old to five years old if they are potty-trained. Toddlers and infants young than three years old or who are in the right age bracket but who are not potty-trained can attend only if they are accompanied by an adult who can assist them while they are at the language nest. There are five children enrolled for this first pilot run of the language nest—four of them are 3 to 5 years old, and one is 2 years old, turning 3 soon.

There is also language support both for and from families of children. The nest hosts a language family night once a week at the library. In addition, language nest families have a class two times a month. Three of the five children enrolled have some language support in their home or among their relatives. One has an aunt who is learning Alutiiq. One of the girls has a grandmother who is a fluent speaker. All of her great aunties are also fluent speakers. Her grandmother is siblings with the grandfather of another child in the language nest. That other child's grandfather and grandmother are fluent speakers. One child who may enroll has a mother who is a language learner. The mother also hired a nanny who is a language learner and she encouraged the nanny to speak in the Alutiiq to her child.

The total cost of establishing the language nest was uncertain. However, some of the expenses included a $6,000 contract to rent the space for the language nest. It was another $500 a month for offices. Other expenses include $24,000 for the language nest administrator, $32,000 for supplies and for the language nest to visit an immersion school site in Alaska. Add to this the salaries for three teachers, and that would be the approximate total cost for the first year of the language nest.

Some of the elements reported to have helped the language nest start out successfully included partnering agencies, recruitment evens, and free publicity, e.g. people including announcements about the language nest in their local newsletters. In addition, there is a great demand for daycares and preschools in the area. Local preschools were very collaborative and welcomed them to visit, observe, and learn how preschools are typically run. The teachers then extract ideas from non-language preschools to use in the Alutiiq immersion setting. The idea of the Alutiiq language nest is to teach the language in context, not necessarily formal teaching of literacy at this stage.

The preschool has an outdoor area. They want the children to be "free range in the woods," and "not everything has to be super structured." The shortage of preschools in the area also helped, as there are more children than preschools. Because of this, the new language nest was not in competition with existing preschools, who were then willing to freely collaborate. There is a demand and need for childcare in the area. This brings up the role of the local economy with regard to daycares in the success of a fledgling language nest.

One of the goals of the language nest is to "have fun." Having fun is an important factor in being sustainable for teachers (so they do not get burnt out), and for children and families, so that they will keep wanting to return. There are also formal goals written into the grant that is funding the language nest. One such goal is to have 30 individuals go through the language nest within the next five years, and for them to be at an intermediate language level.

Another goal the language nest teachers have is to help more people in Kodiak to feel like they can learn Alutiiq. They want to provide access to teachers and entry level materials. They want to share the message that it is important to learn Alutiiq and that it is possible for them. Some people may be too scared to start or to show up to events, because they may feel intimidated or view learning the language as too daunting of a task outside of their reach. The teachers are hoping that with the language nest, they can get little children to start learning the language. Hopefully, by seeing that little children can do it, it may get families to try. Branson noted that learning the language is "a vulnerable thing," but that "people are willing to do things for kids."

Bach commented that another goal is to have "people knocking on our door to get on a waitlist" in two to three years. Right now they are trying to get people to sign up. There is a

reluctance due to how Alutiiq is viewed in the community. They want to change the attitude towards the language.

Some of the challenges they have faced in setting up this language nest are that (1) no one has ever done this in Kodiak before; (2) some of the language teachers had no early childhood development background; (3) no one wants to go first. They were worried about even having kids to start in January 2017, but that has worked out. They also want to be able to reach a broader audience. It was also a great deal of work to know what is needed to start an endeavor like this for the first time, and knowing things like what kids like to play with.

The teachers are primarily intermediate speakers. They have been trying to fortify their confidence, not only in teaching materials with regard to content, but also with respect to language abilities. Bach pointed out that, "children have wild imaginations. We don't want to extinguish that." He noted that it can be difficult as intermediate level speakers to respond to the unexpected things children say and do, and how to cultivate and respond to children's creativity and imagination within the limits of language levels.

Another challenge was that the space they were renting did not have toilets ideal for three to four year-olds. Other things that were challenging and also helpful was to have administration developing policies. They had to develop everything from scratch—what people can and cannot do in the language nest; which of the teachers and staff need background checks, when, and what type. There were so many other of these administrative issues beyond simply setting up the program. Because some of these requirements and challenges were unforeseen, it was not possible to plan for them or to know ahead of time to include them in the budget. Some expressed feeling a bit naïve, as a lot of things had arisen that they had not thought of. This is to be expected with any bold undertaking of this magnitude with no prior experience. It requires the

courage to step into the unknown and realize that with as much planning and preparing as one does, there will always be unexpected elements to face.

Another aspect they would like to work on is developing language fluency. The language situation is feeling urgent. Just the day before our interview, a fluent elder had passed away.

Another challenge has been finding an appropriate facility. the language nest and offices are at a native-owned building. There were some issues with the space—including not having enough storage space for supplies. They did not have space to build the things that they had wanted to build. As anyone who has endeavored a pioneering project or research could probably relate to, they commented that, "In the grant-writing phase you think it's going to be perfect. Then the reality dealing with little pieces takes 99% of your time." For example, the tables they have do not fold, so it is difficult to store them away when the facility needs to be used for other activities. Physical space, furniture, and storage are all parts of the practical reality that can take up additional time and energy and cause stress if they are not in place. Having a large enough space and storage room helps in establishing a system that runs smoothly. They also wanted to invite elders to the facility to feel welcome to come and to feel empowered with routines.

At the time the interview was conducted, the language nest was about to open for the first time within the next couple of weeks.

4.7 Interviews with language nests that also participated in pilot study

4.7.1 Hawaiian language nest

Another Hawaiian language nest, in addition to *'Aha Pūnanaleo o Mānoa*, was visited in the early spring of 2016. There were 16 children in the language nest. The parent organization's

policy was typically not to allow specific identification of individual language nests. In addition, shortly after the study, the parent organization policy changed to oversee any visits that involved interaction with children. The other Hawaiian language nest interviewed, *ʻAha Pūnana Leo o Mānoa*, was an interview with the director without any interaction with the children. The director of that particular language nest granted permission to cite him by name.

Because this other Hawaiian language nest also participated in the picture task pilot activity, the interview results are provided in *Chapter 7 Hawaiian* as background information of the picture task activity.

4.7.2 Sajos (multiple Saami language nests)

An interview was conducted with Heli Aikio, the language nest coordinator at Sajos, the Saami Parliament headquarters in Inari, Finland. The language revitalization programs she oversees include language nests. There are 11 Saami language nests in Finland for the three different Saami languages spoken in the country: (1) Inari Saami, (2) Northern Saami, and (3) Skolt Saami. One of these language nests participated in a picture-task pilot case study. The interview results for the Saami language nests are located in *Chapter 9 Inari Saami*, to provide background information for the picture-task case study results.

4.7.3 Mohawk

The Ahkwesahsne Mohawk Reservation is in Upstate New York, near the Canada border. According to some of the tribal members, the language is in a grave situation. They said that all of the fluent Mohawk speakers who speak the language as their first language are 70 to 100 years old. Seventy years old is considered young for a fluent, native Mohawk speaker. There are a few

fluent speakers in their 50s or 60s, but it is unusual. This is why the language nest and Mohawk language immersion school were so urgently needed in the area.

Because this Mohawk language nest also participated in the picture task pilot activity, the interview results are combined with the picture activity results in *Chapter 8 Mohawk*. The interview contents are provided there as background information for the pilot case study conducted at the Mohawk language nest.

4.7.4 Māori

There are approximately 200 *kōhanga reo*, Māori language nests under the *Te kōhanga reo* organization. There are also Māori language nests that operate independently from *Te kōhanga reo*. These other language nests are typically referred to as *puna reo*.[16] One of the Māori language nests was visited and interviewed. Because this Māori language nest also participated in the picture task pilot activity, the interview results are combined with the picture activity results in *Chapter 10 Māori*.

4.8 Additional interviews

Interviews were conducted with other organizations and individuals that were relevant to this study of language nests. One of these was a Shinnecock preschool on Long Island in New York. Another interview was with academic linguists in Australia who collaborate with local indigenous groups in language revitalization efforts.

[16] In Aotearoa a *punana reo* (linguistically related to the Hawaiian *pūnana reo*) refers specifically to a Cook Island Māori language nest.

4.8.1 Shinnecock

When people hear "Hamptons" the stereotype is Hollywood celebrities in multimillion-dollar homes on the beaches of Long Island. Few people realize that there is a Shinnecock reservation there. About 650 people live on the Shinnecock reservation. The language had been "sleeping" for over 100 years (Simone 2016). An online article described the Wuneechanuk Shinnecock Preschool on Long Island. Shinnecock is an awakening Eastern Algonquian language. The director of the preschool, the staff, and other community members met together for the interview. The term "language nest" was unfamiliar to some of the staff, although what they were doing was akin to the beginnings of a language nest.

The director of the preschool, Lauryn Randall, has worked hard to establish the center—from building the facility to hiring staff. It has been a lot of work just to set up a preschool. They are hoping to start incorporating more language into the program.

One Shinnecock tribal member, Tina Tarrant, has spent much of her time researching the Shinnecock language on her own and has been working to revitalize it since the 1980s. Thanks to her pioneering work, the preschool had some signs in the language. Tarrant commented that although people referred to Shinnecock and other languages as "sleeping," or "dormant," even during times in which there were no fluent speakers, there were still place names in the language. People still "spoke" the language when they spoke those place names. In that sense, she noted, the language was never entirely dormant. Although the language was not spoken fluently by anyone for many years, there were parts of it that have always been awake and alive, even if small parts, and it has had a continuing existence in those names.

4.8.2 Language nests in Australia

John Hobson and Susan Poetsch of the University of Sydney in Australia participated in a joint interview. They work with local indigenous communities on language revitalization efforts and offer the Master of Indigenous Languages Education, a graduate professional development degree for Indigenous teachers. Hobson and Poetsch pointed out that the term "language nest" is often used in Australia to refer to something other than what it means in many other parts of the world. In an original list of language nests around the world from the Recovering Voices directory, several language nests in Australia were listed. However, while there are five "language and culture nests" in the state of New South Wales (NSW), the term "nest" there does not refer to a language immersion preschool or daycare in the sense of the original Māori language nests, instead a "language and culture nest" is a government language and culture revitalization initiative. In NSW a "language nest" is not a physical center or a method. Rather, it is more of an "administrative body," or a "service delivery coordination center" where language and cultural resources are developed and then disseminated to a community and teaching programs coordinated and resourced. In NSW a "language nest" consists of two positions: (1) and teacher of aboriginal language and culture; and (2) a community advisor, both employed by the state Department of Education. Each language and culture nest is housed in a school under a principal. They note that these programs are still positive revitalization endeavors; they simply clarify that these are completely different types of programs from the idea of "language nest" in revitalization efforts in other countries. According to Poetsch and Hobson, there are currently no indigenous language immersion daycares or preschools in Australia, in the sense of using the native language as the sole medium of communication all day every day, although there are some second-language programs offered in

schools that attempt immersion-style activities. Hobson stated that it is possible for there to be incremental growth, using the Baldwin family's method of revitalizing the Myaamia language as a model.[17] In other words, in awakening the language, they can work their way up to one hour of total immersion in the language. Over time, they could progress to two hours in the language, and so forth, until there is a preschool or school that can operate as a full language immersion program.

Most of the indigenous languages in New South Wales are awakening after decades since the last living native speakers of the language. The Gumbayngirr language program is the most established in the state. It is the only autonomous community based center in the area and has operated for over three decades. There has been lots of archival research and foundational work, e.g. the development of a dictionary and a grammar. There is now also a small community of adults with some language proficiency.

Interestingly, some of the Gumbayngirr language learners in one school are non-indigenous students from Indian backgrounds who are learning it as their third language in the classroom. There is a large Sikh population in the area; many Punjabi have also come to Australia to work on banana plantations. Unexpectedly, there are a lot of phonological similarities between some of the languages of India and of Australia, making some elements of language learning more feasible.

In some of the Northern Territory there are areas where an indigenous language is the children's L1. In those areas, there may be bilingual education, where the language of instruction is the L1, and English is taught as an L2. These are largely language maintenance efforts rather than language revitalization. The schools in these communities "often believe it's their purpose

[17] See www.myaamiacenter.org for more information.

to retain their native language while learning an L2." Unfortunately, "the Northern Territory government has little real interest in preservation" of these indigenous languages, except as a "vehicle" to learn the target language, in this case, English.

Hobson and Poetsch expressed that there is no policy, law, or treaty in Australia that guarantees language rights to indigenous people. Only recently have there been some policies with regard to land rights. There also seems to be a link between geography and language loss in Australia. Much of it is very arid, making it less ideal for agriculture. Because of the undesirability of the land, indigenous people from those areas "have been able to remain *in situ* in greater degrees" and retain their languages. New South Wales was the original site of colonization closely followed by Tasmania and Victoria and were cited to have suffered the most linguistically, partially due to the easy-to-access, highly fertile land.

One of the challenges relates to reporting speaker numbers. It is a type of Catch-22. Some say that if one were to overstate the numbers of speakers or the vitality of a language, they could get more funding for the language; however, if the vitality is overstated, instead people will likely be told that the cause is not as urgent. Hobson and Poetsch urge for reporting accurate information in order to be able to plan strategies that are more likely to be effective, as they will be based on actual needs and available resources.

4.9 Summary of interviews

This section discusses the several recurring themes that emerged throughout the interviews as well as points of divergence across language nests. These topics are grouped in the following subsections: the number of hours in which the language nest is open (4.11.1); the sizes, rates of reenrollment as well as ages of the children accepted (4.11.2); factors contributing

towards the success of the language nest (4.11.3); challenge faced, including funding (4.11.4), and advice which language nest teachers and workers had for other communities (4.11.5).

Table 4.1 contains answers to 14 of the interview questions asked in language nest interviews. Not all answers were available for all language nests. However, those that were contained in interviews are presented here. While some might find it interesting to label rows by language nest name and make comparisons across the different language nests, it was decided to leave specific language nest names out of the table so as to discourage evaluative judgments. The purpose of this table is to see what the range of responses were—what kinds of language nests are out there. It is not to say that one language nest is "better" than another, or that there is one right way to run a language nest. Different language nests and different communities have different needs. Each one responds to those needs with whatever resources are available in the way they see best fit.

The very first column merely contains the numbers 1 through 10 to identify the ten language nests involved. The first *labeled* column contains responses, and refers to the maximum capacity of the language nest with regard to number of children allowed to enroll. The second column with responses depicts the number of children enrolled in each language nest. The third labeled column refers to the percentage of children who did not graduate in the previous year whose parents chose to re-enroll them in the language nest. The fourth labeled column contains the ages of children allowed to enroll in the language nest. The column entitled "Follow up available" refers to whether or not there was formal language support available for children once they graduated from the language nest. In all but two of the cases, the "y" (standing for 'yes') referred to a language immersion school available. In two of the eight cases, an immersion school in the target language was not available for children after graduating from the language

Table 4.1. Results across all language nest interviews

	capacity (# children)	# of children enrolled	#eligible children re-enrolled (not grad)	ages of children accepted	Follow up available	# children continued immersion	teacher language background	hrs/week	weeks/year	Language support in home (or other)	% target language used in LN for:			
											teacher to teacher	teacher to child	child to teacher	child to child
1	10	5	n/a	2-5 yrs	y (pre-K - 5)	n/a	F-L2 (L1 elders help)	7 hrs (pilot), will be 10.5 hrs	36 weeks/ year	60%	n/a (goal: 100%)	n/a (goal: 100%)	n/a	n/a
2	25	24	100%	2 yrs 8 months-5 yrs	y	64%	F-L2	~35 hrs	~40? weeks	~70-80%	100%	100%	80% (diff per child; older kids 100%; younger 60-70%)	older kids 90%; younger 60-70% (less on play-ground)
3	?	16	100%	3-5 yrs	y	?	F-L2	~35 hrs	~40? weeks	?	100%	100%	? (90-100%)	? (80-90%?)
4	10	3	?	1-2 yrs	y	?	F-L2	~35 hrs	?	?	100%	100%	100%	100%
5	15	8	50%	2-5 yrs	y	50%	2F-L1 2F-L2	34 hrs	~36 weeks	?	100%	100%	?	25% (1st exposure to lang)
6	25	20	96%	8 to 9 months-5 yrs	y	100%	F-L2 SF-L2	~35 hrs	~36 weeks	~70%	~100%	~100% (goal 100%)	90-100% (besides new children)	100%
7	10	6 (holiday); 10 (school year)	100%	1-4 yrs	y	100%	C-L2 (L1 elders help)	45 hrs	52 weeks	~83%	?	?	?	?
8	12	11	n/a (1 age)	4 yrs	y	100%	F-L2, 1 learner	37.5 hrs	~38 weeks	9%	100%	100%	varies	mostly dominant language
9	16	16	100%	3-4 yrs	y	100%	L2	11.5-17.5 hrs	~38 weeks	?	?	~90%	?	?
10	?	6	100%	1-4 yrs old	y	not available	2Fl, 1 learner	~14 hrs	~38 weeks	33%	80-90%	~80%	~20%	~10%

nest, but there were other forms of follow-up. These two had language classes available for the target language in schools where a language other than the target language was the primary medium of instruction (i.e., non-immersion schools, but with language classes). The next column ('# children continued immersion') refers to the percent of children who "graduated" from the language nest the previous year who continued on in an immersion school in the same target language after completing the language nest. Under "teacher language background," F-L2 stands for 'fluent L2 speaker,' i.e. a fluent speaker who learned the language as a second language. F-L1 represents a fluent speaker who learned the language as their first language. SF-L2 stands for 'semi-fluent L2 speaker.' In all of these, L2 stands for 'second language speaker' (someone who learned the language as a second language) and L1 stands for 'first language speaker' (someone who learned the language as their first language). C-L2 was used where teachers referred to themselves as competent speakers but not necessarily fluent. All of these answers are based on self-reporting.

The columns "hours/week" and "weeks/year" are estimates of approximate numbers of hours per week the language nest is open, and the number of weeks it is open each year. These are estimates, as interview answers varied in style (e.g. some said names of months in which the nest operated, holidays were variable, etc.).

The last four columns refer to teachers' estimates of how much of the time the target language is used in various types of communication interactions in the language nest setting (when teachers are talking with other teachers; when teachers are talking to children: when children are talking to teachers; and when children are talking with each other.

4.9.1 Hours of operation

There was a broad range of hours which the language nest operated in a week, ranging from 11.5 hours to about 45 hours. When multiplying the number of hours per week by the number of week per year, one gets the number of hours each year the language nest is open. There were three basic types of language nests with regard to hours of operation: (1) language nests that were open part-time; (2) language nests that operate year-around; and (3) language nests that operated in synchronicity with the school-year of nearby schools.

The first type included both pilot programs and more established programs. A common pattern when piloting a language nest was to start with a four-month trial-run, keeping the language nest open two days each week. Some funding programs required this type of trial-run before opening the language nest for a full year. The wisdom in this is that many logistical issues could be dealt with after the four-month pilot test before beginning a full program. Other language nests that were more established (i.e. were beyond the pilot-testing phase) were open for 3-4 hours each day for the full week. Others were open for a full day, two or three days out of the week. Some of the part-time language nests expressed that children could understand the language, and some were close to speaking it, but were not quite there. Chapter 11 will discuss further the issue of amounts of language input children need to produce speech in a language.

A few language nests are open for a full day (e.g. 7 or 8am to 3-5pm), and operate all year around. Even during the holidays, the language nest is open. When the school year begins, enrollment typically increases to maximum capacity. It was common for language nests to work in partnership with immersion schools. Some continued even when the school was closed.

Other language nests working closely with schools closed when the school closed. These schools ran a typical schedule of 9 months out of the year.

Unsurprisingly, some of those language nests that met for the greatest number of hours/year had children who were producing speech in the language.

4.9.2 Enrollment, reenrollment, and ages

The size of language nests with regard to enrollment ranged from 3 children to 25. However, there was less variation in range of teachers/adults per child present. This ranged from 3 to 5 children per adult.

There seemed to be a pattern with language nests that had high percentages of reenrollment. A few language nests had 100% reenrollment, meaning, all children who could attend the language nest after being in it for a year did reenroll and attended it again. There were only rare exceptions if a family moved out of the area once every few years. Other children "graduated" from the language nest (or "aged out"—became too old for the language nest), so they were unable to reenroll. Other language nests permit only one age to enter the language nest—e.g. four year-olds—so there is no possibility for reenrollment. The language nests with high levels of reenrollment also had high levels of follow-up—children who graduated from the language nest continued their language learning in an immersion school. These language nests tended to be those that worked in close proximity with an immersion school, sometimes even sharing the same grounds. Some had programs for four or five year olds in their last few months at the language nest to spend time with kindergarten immersion classes to help them make the transition to more structure school the following year.

The ages of infants, toddlers, and young children accepted into language nests ranged from 8 months old to 4 years old, some graduating when they turned 5. Some larger language nests (e.g. with 25 children) combined both younger babies and 3-4 years olds in the same room,

like a large extended family environment. Typically, the smaller language nests (3 children) targeted specific age ranges. Babies. However, I heard second-hand reports of other language nests that were both very large and targeted to specific ages (20-40 infants 6 months to 2 years old), but when attempting to verify this, no responses were received.

4.9.3 Factors of success

One of the most prominently recurring themes was "families." Language nests that mentioned families as a factor of success said that the language nest could not work without the involvement of parents and families. Some language nests had a system in which children's families took turns cleaning the language nest. Families were divided into groups of three. Each week it was one group's turn to clean. The three families in that group could decide among themselves how to divide the task of cleaning each day. This saved on expenses and lessened the burden on language nest teachers. Several language nests also mentioned that families would do fundraising for the language nest. This fundraising could help keep the nest running, and/or it could help with additional expenses, e.g. taking the children on fieldtrips. If families were committed to and invested in the language nest, it could be successful even without as much independent monetary funding.

4.9.4 Challenges

When asked what helped the language nest be successful, the first factor many language nest workers mentioned was "families"; interestingly, when asked what one of the greatest challenges was in running the language nest, the first word mentioned by some was again, "families." It seems that the families of the children attending a language nest had a significant

role in making or breaking a program. Some expressed that if the families treat the language nest just like a daycare where they drop their kids off when they go to work, it can be difficult on the language nest teachers if the parents are not invested in the language and culture aspect of the nest. Teachers work very hard to instill the language, culture, and values in the children. Some felt morale affected by not hearing any appreciation from families, and by not having any family involvement in the nest. However, even some language nests that mentioned lack of family involvement can be a challenge said that some parents were more invested in the language and cared, and that it showed in their children.

Another challenge that was brought up repeatedly was finding teachers. For some language nests, this was difficult because the language was so endangered that it was difficult to find someone who could speak the language. Another challenge was finding someone who wanted to work with young children all day. Caring for young children can be very demanding and can require a degree of physical health and mobility to be able to chase after them and carry them. In addition, language nest teachers and directors as well as parents want to ensure that their children are in safe hands. An ideal language nest worker is (1) someone who speaks the target endangered language; (2) someone who is able to work with children; (3) someone who is safe, patient, and kind; and (4) someone who wants to work with children all day every day. It can be close to impossible for language nest directors and teachers to find people who have all four of these attributes, as each of these attributes alone can be difficult enough to find. In addition, some language nests had required teacher training programs. One training was an intensive multi-year program, so in addition to finding someone who had all of the previously mentioned attributes, they also had to be willing to go through a multi-year training program in their free time while working full-time.

Procuring sufficient funding for long term sustainability was another major challenge. Some language nests operated on long-term governmental funding. Other language nests operated on annual governmental or other institutional funding, and had to reapply for funding every year. One language nest was funded by a settlement with a major corporation that had polluted the tribe's river. Yet another language nest had governmental funding, but they said that extra cash was always needed for smaller additional expenses, like tissues, dish soap, etc.

4.9.5 Advice

Virtually all language nests agreed that it was important to get the support of families before starting a language nest. One teacher suggested doing a questionnaire in the community to see how much interest there was in a language nest, and if there would be families that would send their children to one. Others said not only families but community visibility and support was also important. Some recommended visiting other daycares (if other daycares in the community agreed to allow visits) to observe how to run a daycare generally. plan and prepare very thoroughly.

More than one language nest said they had a challenge of fluent speakers wanting to switch to English when parents came to pick up their kids, to make the parents feel more comfortable. One thing they tried that has been working for them is to make different spaces for different languages. So they keep the main room as a place to speak the language, even when parents come. If workers want to talk to the parents in English, they step outside into the parking lot for English. This concept of indoor-outdoor works in a warm climate. In a colder climate, the same idea could work with a different demarcation of space—e.g. marking off a certain hallway to step into to speak in any language other than the target language. Another option could be tape

off a square on the carpet to go into to talk in the other non-target language (e.g. Finnish, English, Spanish, etc.), so the kids see a clear physical line and see the example of the adults consistently speaking in the language in all the rest of the space.

Many workers across different language nests reiterated that creating and maintaining a language nest was not just a job—it was a lifestyle. Some advised that if a person is merely looking for an income, they should not work at a language nest, because it will not be successful. Revitalizing the language and culture should be something a person is passionate about and is personally committed to in order for the language nest to succeed. One administrator observed that the difference between language nests that succeeded over the long term and those that disbanded within a year or two was that those that succeeded had at least one person who was consistently committed to the language nest. At least one person had to have the big-picture vision of the true purpose of the language nest. A challenge was somehow transmitting that vision to other language nest teachers and even at times elder fluent speakers, yet this vision was what made all the difference.

Several of the language nests said that visiting a currently successfully operating language nest in person had a significant impact on motivating them to start a language nest of their own. They suggested visiting one to see how it can work. Some expressed that physically seeing an operating language nest—with full immersion—gave them the confidence that it was possible to create such a program, that others had done it, and that they too could do it. Others expressed the need for extensive research and planning. Many have mentioned the role of Early Childhood Education (ECE), and having people who are able to not only speak the language but who have the desire and ability to work well with young children.

In Part 2, *Chapter 11 Synthesis* and *Chapter 12 Conclusion,* the results of the interviews will be discussed in further detail. In addition, in Chapter 11 and Chapter 12 the interview findings are connected to the results of the language nest acquisition studies in an effort to see what kinds of acquisition results are correlated with language nest structure and other features.

Part Two:

Picture-Task Pilot Studies

Chapter 5

Review of literature for language nest pilot studies

5.1 Introduction

In this chapter, the relevant language acquisition literature is reviewed. Section 5.1.1 reviews child language acquisition literature relevant to the current study. In section 5.2 there is a discussion of extant literature that has already connected language acquisition assessments to language revitalization programs. This section is further subdivided into acquisition in language revitalization and acquisition in language nests.

5.1.1 Child language acquisition literature

The literature on child language acquisition relevant to this study covers a range of topics from input to methods. These include in section 5.1.1.1, the relation of language input in infancy to language competency, in 5.1.1.2 the acquisition of vocabulary, in 5.1.1.3 accepted methodologies in previous child language acquisition studies, in 5.1.1.4 the efficacy of early childhood language programs, and in 5.1.1.5 how methods in other studies have been observed to interfere with results of experiments attempting to assess children's language proficiency.

5.1.1.1 The correlation between language input and competency

In this section, I consider the literature on not only the amount of input but also the type of input that children receive, and how these correlate to children's performance on language assessments.

Pearson, Fernández, Lewedeg, and Oller (1997) argue that children in bilingual or multilingual environments will not have the confidence or knowledge necessary to speak a language unless their exposure to that language consists of at least 20% of their total language input. O'Grady (William O'Grady, p.c. 2015) connected this finding to language revitalization programs, and whether or not participants will be able to produce speech in the target language. To date no one has connected this phenomenon to the literature on language nests. However, if a goal of the language nest is to create new speakers, a minimum of 20% of their total language input may need to be in the target language.

O'Grady (2017) highlights the importance of adequate input in revitalization programs in order for intergenerational transmission to truly occur, in the sense that children become fluent speakers of the language. He also warns of rapid language loss in young children once they are removed from a language immersion situation and placed in a different language context. This is highly relevant to children in language nests. A Korean child who moved to the United States with her family was tested for Korean and English proficiency at various points after the move. After nine weeks in a monolingual English-speaking school setting, she lost more than 50% of her original Korean vocabulary (O'Grady 2017:6). This shows how quickly children in a language nest could lose the vocabulary they have acquired if they were to transfer to a mainstream school. Enrolling in an immersion school immediately after the language nest provides a chance for children to retain the vocabulary acquired and to build on it. However,

even when children lost exposure to the language for several years, when they were re-exposed to it, they were still better able to recognize phonological distinctions that typically only native speakers can distinguish (O'Grady 2017:7). This suggests that even if a community does not yet have the resources to establish an immersion school, by exposing children to as much properly spoken language input as possible in a language nest, children may be able to redevelop a sense for phonological distinctions in the language that are not found in the dominant contact language, even if it is years between exposure.

Since the 1970s there has been controversy about the correlation between language input and performance on standardized tests. While in the early days of the controversy, some scholars mistakenly correlated performance on tests with socioeconomic status or culture. Labov (1972) corrected this error, pointing out that children who spoke African American English (AAE) as a native language had high quantities of very rich language input in AAE, and were highly fluent in it. In addition, the studies that erroneously claimed children had lower language abilities and lower cognitive abilities were both culturally biased as well as hostile, unnatural environments in which children did not feel comfortable talking.

Hirsh-Pasek and Golinkoff (2012) discuss other studies that correlate to language input in infancy to vocabulary proficiency as a toddler, and to cognitive skills later in childhood. For example, they say:

> recent results suggest that the amount of early language heard in infancy is strongly related to the speed with which children process language at 18 and 25 months of age (Fernald, Perfors, & Marchman, 2006); to vocabulary size at 25 months; and to linguistic and cognitive skills at 8 years of age (Marchman & Fernald, 2008). These findings hold for children who speak Spanish as well as for those who speak English (Hurtado, Marchman & Fernald, 2008) and appear to be language specific such that when testing processing speed in English/Spanish bilinguals, efficiency in processing English words affects English

> vocabulary size while processing speed in Spanish predicts Spanish vocabulary size (Marchman, Fernald & Hurtado, 2010). (Hirsh-Pasek and Golinkoff 2012:2)

In addition, these studies reveal that the correlations are language specific. In this current language nest study, the amount of language input children are exposed to in the respective target languages (the endangered languages focused on in the language nests) may be reflected in their proficiency on the picture-task assessments. The amount of language input children receive in target languages may not be limited to the language nest. The difference among children with regard to the amount of target language input they received at home is likely a significant factor that would influence performance on the picture task.

In Risley and Hart 2006, they found that the amount parents talked to babies influenced later intellectual success more than socioeconomic status, race, or income (Risley & Hart 2006). They found that the amount of "extra talk," real conversations with children beyond "business talk" (e.g. "brush your teeth," "don't touch that," etc. would be considered "business talk"), significantly correlated to children's IQ test scores. In an interview with David Boulton, Risley stated, "In other words, some working poor people talked a lot to their kids, and their kids did really well. Some affluent business people talked very little to their kids, and their kids did very poorly."[18]

Hirsh-Pasek and Golinkoff (2012) outline six principles for early childhood language acquisition. While it is impossible to report the full wealth of information in their paper, their information on effective methods for assisting children in language development is invaluable. These six principles are, in brief:

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[18] http://www.childrenofthecode.org/library/refs/earlylang.htm

1. Children learn the words that they hear most

2. Interactive and responsive rather than passive contexts favor language learning: Social interaction matters

3. Children learn words for things and events that interest them

4. Children learn words best in meaningful contexts

5. Vocabulary learning and grammatical development are reciprocal processes

6. Keep it positive (Hirsh-Pasek & Golinkoff 2012:25-31).

Most of these principles are somewhat self-explanatory. One aspect of principle three that was of particular interest was that children learned vocabulary better when parents observed where the child was looking and commented on whatever had captured the child's attention. In contrast, when parents attempted to redirect the child's attention to something of the parent's choice, and the parent talked about the item, the child was less likely to learn the related vocabulary word or words. This brings up the role of the child's agency in language acquisition and development, and that focusing on topics that interest the child results in more effective language development.

They also comment on the role of comprehension, stating that, "The real story of language development, however, comes not merely from what children say, but also from what they understand well before they can speak and from the analyses they appear to conduct on language" (Hirsh-Pasek & Golinkoff 2012:6). However, the reciprocal can also be true; production can sometimes precede comprehension (Hendriks & Koster 2010).

There were two camps concerning what should be included in the assessments. From one perspective, if the goal of language revitalization is to create new speakers, then speech production would be the most important element to measure, as without it, there is no proof of

"speakers." One might argue that the goal of revitalization is not to create "passive speakers," a term referring to people who can understand the target language but who cannot speak it, which could be correlated to assessments that solely measured comprehension. From the opposing view, if only production were measured, the children's acquisition of the language might be underestimated if they are actually able to comprehend more than they produced.

5.1.1.2 Lexical and morphological acquisition

Clark (2010) has pointed out that "children start to produce their first recognizable words between 12 and 18 months of age, and typically understand more than they produce" (Clark 2010:434). She also adds that throughout life speakers will generally comprehend more than they produce.

Research has been undertaken to determine the stages at which children develop an understanding of the distinction between singular and plural morphology. Both English and Spanish-speaking children begin to produce the plural morpheme in noun phrases in their respective languages by about two years of age. English-speaking children acquire plural verbal morphology at approximately age five (Miller & Schmitt 2009:6). Miller and Schmitt say:

> With respect to verbal agreement, we know that Spanish-speaking children begin to produce verbal agreement by at least 2;5 years of age (Durán 2000, Grinstead, 2000, Félix-Brasdefer 2006). Similar findings were reported for English-speaking children (Brown 1973). However, comprehension studies have suggested that Spanish-speaking children are unable to use verbal agreement to interpret number on the subject until around 5 years of age (Pérez-Leroux 2005), similar to what has been reported for English-speaking children (Johnson et al. 2005). (Miller & Schmitt 2009:7)

They also point out that Spanish has overt morphology for both the third person singular and for the third person plural, whereas with English verbs there is agreement morphology in the third person singular but not with the third person plural (e.g. 'he talk**s**' vs 'they talk') (Miller & Schmitt 2009:8).

In the Māori language case study, we tested for comprehension of distinctions between the third person singular, dual, and plural subject of an intransitive sentence. Each of these has overt morphology. The details of this will be discussed further in Chapter 11.

5.1.1.3 Efficacy of early childhood language programs

According to Brandone, Salkind, Golinkoff, and Hirsh-Pasek (2006), "Federally funded community-based programs for low-income families with infants and toddlers, such as Head Start and Early Head Start, also function as effective tools in the prevention of language problems" (Brandone et al. 2006:509). In relation to the works on the effects of input on later language competency and cognitive abilities (Hart & Risley 1995; 1999), programs external to the home can potentially supplement language input. However, the efficacy of the program would depend on the quantity and quality of child-directed speech.

Another factor upon which the efficacy of a program may depend could be consistency of input. Miller and Schmitt (2009) investigated the Variability Delay Hypothesis (Miller & Schmitt 2009:9). The hypothesis suggests that if input is inconsistent, it will delay language development.

5.1.1.4 Methods for observing child language acquisition

The methods for the acquisition assessment portion of this study is derived primarily from McDaniel, McKee, and Cairns 1996, *Methods for Assessing Children's Syntax*, as well as from Peter et al. 2008 and Heaton and Xoyón 2016. The methods are primarily based on picture tasks.

Eisenbeiss (2009) discusses several methods for eliciting children's spontaneous speech production. One of these methods was to show contrastive pictures, prompting the child to specify which picture they were referring to by talking about the contrastive detail(s) that distinguish it from the other picture. For example, "…for a study of the object marker o, one might have to contrast pictures where one picture presents participant A as an agent and participant B as a patient while another picture shows the reverse – B acting on A" (Eisenbeiss 2009:10-11).

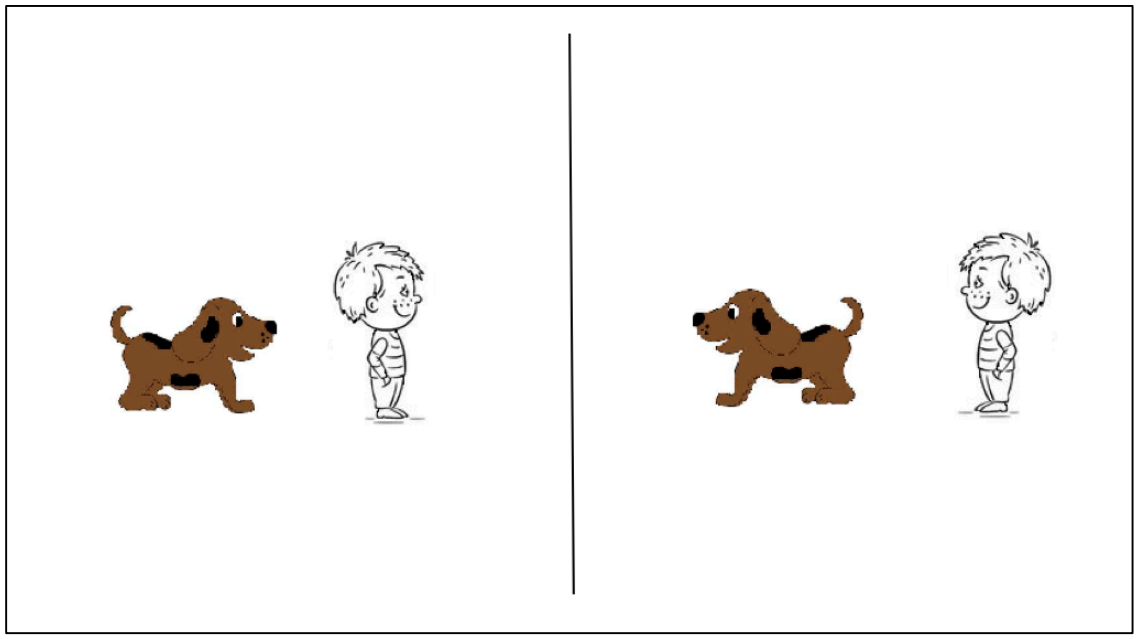


Figure 5.1. Example of contrastive pictures to test for subject or object.

Figure 5.1 illustrates an example of contrastive picture that differ in the element being elicited (basic coding strategies for transitive sentences). However, while Eisenbeiss 2009 is referring to production elicitation, in this dissertation Figure 5.1 was used for a pointing picture task to measure comprehension of basic transitive sentences. In this study I opted not to elicit spontaneous speech from children. Due to the cross-linguistic nature of this dissertation, it was more feasible to have closed responses as I had to create assessments for four different languages.

Hirsh-Pasek & Golinkoff 2012 discuss methods of determining infants' language comprehension. Three of the methods they mention are: (1) "high amplitude sucking paradigm" (Hirsh-Pasek & Golinkoff 2012:7); (2) head-turning; and (3) eye-tracking. The majority of the children who participated in this dissertation were three years old or four years old. A few were younger than three.

While Clark (2010) discussed lexical acquisition, McDaniel et al. 1996 dealt with methods of assessing children's acquisition of syntax. One particular method in McDaniel et al. 1996 was the picture task (Gerken & Shady 1996). According to Gerken and Shady 1996, some of the morphosyntactic contrasts that had been assessed using the picture task in previous studies are "affirmative vs. negative," "subject vs. object," and "singular vs. plural inflection" (Gerken & Shady 1996:128, citing Fraser, Belugi, and Brown 1963). The examples given in table 6.1 of Gerken and Shady 1996 that are relevant to the current study are reproduced here.

Table 5.1. Partial reproduction from Gerken and Shady 1996:128 Table 6.1

Sample sentence pair	Contrast tested
The girl is cooking. The girl is not cooking.	Affirmative vs. negative
The train bumps the car. The car bumps the train.	Subject vs. object
The boy draws. The boys draw.	Singular vs. plural inflections

Heaton and Xoyón 2016 also used a picture-task method to test children's comprehension in a Kaqchikel language program. In the experiment two pictures were shown to each child. Children were asked in the language to point to one of the pictures. The results are discussed in section 6.2.1.3.

Miller and Schmitt 2009 also used a picture comparison task to elicit Spanish-speaking children's comprehension of number (singular vs. plural) in the subject of intransitive Spanish sentences. They tested the distinction between third person singular and third person plural.

a. Duerme en la cama.
sleeps.3.sg in the bed
'(It/he/she) sleeps in the bed.'

b. Duermen en la cama.
Sleep.3.pl in the bed
'(They) sleep in the bed.' (Miller & Schmitt 2009:7)

Children were presented with one of the sentences and two pictures. They were asked to point to the picture that best represented the sentence they heard. This method was applied to some of the morphological elicitation in this study.

O'Grady, Kim, & Kim (2017) demonstrate that in the case of agreement in particular, it is common for production to precede comprehension.

> …Second, there are indications of greater attention to the agreement routine in production than in comprehension. Whereas success in the use of the third-person singular suffix reaches the 90% criterion on elicited production tasks around age 4;0 or earlier (Rice & Wexler, 2002; Johnson et al., 2005:326), the ability to exploit this suffix for the purposes of comprehension appears to emerge more slowly. In a study of 62 children aged 3 to 6, Johnson et al. report that it was not until age 5 or later that their participants were able to use the agreement marker at even above-chance accuracy to interpret sentences such as *The cat sleeps on the bed* versus *The cats sleep on the bed*; see also Legendre et al. (2014). This too makes sense. (O'Grady, Kim, & Kim 2017:14)

They explain the reasoning behind these findings, explaining that:

> Success in production requires the activation and use of even weak routines. An English sentence that is produced without attention to agreement is noticeably unacceptable (**He go there every day*); in contrast, failure to activate the agreement routine in comprehension is essentially without consequences, since the stronger word-order-based routine gives the right interpretive result in the vast majority of sentences. (O'Grady, Kim, & Kim 2017:14)

The methods in this study will be discussed in further detail in *Chapter 7 General methods for the language nest case studies*.

5.1.1.5 Interference of methods

Crain, Thornton, and Murasugi (2009) found that improper methods could skew perceptions of children's proficiency. They found that some grammatical patterns might not be

evident in simply observing the children's free speech or even in elicited production tasks. They also found that some children knew how to use complex passive constructions, but would resort to other, more frequent ways of responding to elicitations if methods allowed for other possible answers. "Perhaps they too have mastered the linguistic prerequisites for using this construction, but will fail to evince mastery except in circumstances that uniquely demand the full verbal passive," and that "nearly every child" was able to produce the passive when proper elicitation methods were used, "including ones as young as 3; 4" (Crain et al. 2009:126). The Crain et al. study reveals that the researcher's elicitation methods could interfere with interpretations of children's language proficiency, causing proficiency to be underestimated.

This was also found to be true in the current study. Children were observed to be able both to comprehend and to produce many lexical items and phrases that were not included in the acquisition assessment.

5.2 Language Acquisition and Language Revitalization

There have been a handful of language acquisition assessments of revitalization programs, and even fewer of language nests in particular. In 2014 Deen and O'Grady developed a pioneering graduate linguistics course on language acquisition and language revitalization. Most of the literature on language revitalization generally does not connect it to language acquisition method and theory.

O'Grady and Hattori (2016) discuss principles of language acquisition and its importance in developing language revitalization programs that succeed at intergenerational transmission. They discuss the "conditions under which children acquire and maintain the language of their

parents" and how "understanding…these conditions contribute to the design and evaluation of language revitalization programs" (O'Grady & Hattori 2016:46). Factors include amount of language exposure, challenges of bilingualism, risk of language attrition (i.e. how quickly children might forget what they have learned in the language), and how the ability to learn a language can decline with age.

A few studies have assessed language acquisition in revitalization programs, including those for Cherokee (Peter et al. 2008), Hawaiian (Housman et al. 2011), Kaqchikel (Heaton & Xoyón 2016), and Seneca (Borgia 2014).

5.2.1 Acquisition assessments of revitalization programs

Three acquisition assessments of non-language nest revitalization programs are focused on in this section: (1) Cherokee (Peter et al. 2008); (2) Hawaiian (Housman et al. 2011); and Kaqchikel (Heaton & Xoyón 2016).

5.2.1.1 Cherokee language assessment

Peter, Hirata-Edds, and Montgomery-Anderson (2008) report on the Cherokee Kindergarten Immersion Language Assessment (C-KILA). The C-KILA involved an assessment of Cherokee verbal morphology with 13 children who were attending a Cherokee language immersion kindergarten. The assessment measured acquisition of vocabulary, syntax, and morphology, and consisted of 10 sections. Eight out of the 13 children attended Cherokee immersion preschool prior to entering the immersion kindergarten. The children were shown pictures of people or animals demonstrating an action and were asked in Cherokee, "What are they doing?" (Peter et al. 2008:172). A similar approach was used in this dissertation for verbs in

the vocabulary test. Peters et al. found that children spoke with a great deal of fluency. However, there were linguistic gaps in their acquisition of Cherokee—in their responses they overused the singular forms of verbs (as opposed to conjugating verbs to agree with plural subjects), and they often replaced verbs with nominal forms of the word.

5.2.1.2 Hawaiian language assessments

Housman, Dameg, Kobashigawa, and Brown (2011) provide a history of Hawaiian language assessments as well as report findings of their Hawaiian Oral Language Assessment (H-OLA) Development Project. Some of the content of their paper is discussed in more detail in *Chapter 8: Hawaiian language nest case study*.

One of the earliest Hawaiian language revitalization assessments was conducted in 1987, and was called the Hawaiian Language Immersion Program Qualitative Assessment (Housman et al. 2011:6). It comprised two tests: (1) the Language Proficiency Measure (LPM) and the Peabody Picture Vocabulary Test (PPVT) (Housman et al. 2011). The LPM involved children looking at a picture book without words and narrating what they thought was happening in the story. The PPVT required children to listen to vocabulary words and select out of four pictures the one that depicted the word. Twenty-four students were tested with these on both their English and their Hawaiian language abilities. According to the results, 22/24 students were "moderate to very proficient" in Hawaiian (Housman et al. 2011:7). The other two students "interjected English 50% of the time" during conversation, and 15% of their guided narrative with the picture book (Housman et al. 2011:7).

In 1989-1990 and 1990-1991 another study followed children from kindergarten to grade four in the Hawaiian Language Immersion Program (HLIP) over a two-year period to investigate how proficient they were in basic Hawaiian syntactic features. Oral conversation data was recorded. The majority of the children in HLIP were English L1 speakers, and were L2 learners of Hawaiian. Their proficiency in these selected grammatical structures was compared to how adult native Hawaiian speakers from Niʻihau used the same features (Housman et al. 2011:9). The study looked at three features: (1) basic word-order, (2) "noun phrases and noun phrase markers" (Housman et al. 2011:10), and (3) "verb and predicate head related phenomena" (Housman et al. 2011:10). Housman et al. reported:

> Findings indicated that the children were near the levels of conventional use found for the native speaker group for the majority of the fundamental aspects of Hawaiian syntax examined, and were above the group-acquisition criterion of 90%. Furthermore, their nonconventional uses were largely systematic in nature, reflecting the use of prior knowledge (experience including L2, but dominated by L1) as a major strategy employed in learning Hawaiian (related to substrate L1 transfer). In this process, children sometimes created new structures, and regularized perceived irregularities (aspects) of Hawaiian via the overgeneralization of certain rules, often surfacing as Hawaiian (near-) equivalents of English expression. (Warner, 1996, p. xii) (Housman et al. 2011:10 citing Warner, 1996, p. xii)

The H-OLA was later developed, based in part on the Kaiaka Reo Māori Language Assessment (Housman et al. 2011:19). Two hundred-seventy children participated. The two components of the test were (1) two narratives elicited with storybook pictures; and (2) a vocabulary portion using a flipchart of pictures. Participants' speech was evaluated on "Communicative Skill," "Vocabulary," "Grammar," "Pronunciation," "Fluency," Steadfastness," and "Cultural Authenticity" (Housman et al. 2011:26). Vocabulary tested include nouns, demonstratives, locatives, verbs, verb-markers, and pronouns. Most students performed reasonably well in almost all areas except for "Cultural Authenticity." Grammatical mistakes,

e.g., mistakes with dual pronouns (which exist in Hawaiian but not in English) seemed to be influenced by participants' L1, English.

5.2.1.3 Kaqchikel language assessment

Heaton and Xoyón (2016) developed and proctored language assessments at Nimaläj Kaqchikel Amaq', a paritial immersion Kaqchikel language school in Guatemala. Fifty-three students ages 3 to 10 participated in the study. The children received 10-12 hours of Kaqchikel input a week in school, and did not receive Kaqchikel language input in the community outside of school or in the home. The assessment used picture tasks to measure comprehension and production of lexical items, targeting phonology, grammatical structures, and morphology. They looked at singular vs. plural distinction as well as intransitive vs. stative positionals. The pictures were displayed on Powerpoint slides on a computer. The teachers who administered the test clicked through as the child responded to each picture prompt. The production portion of the assessment contained 45 slides and took 7-20 minutes for each child to complete. The slides depicted images of 15 objects that would be familiar to the children as well 30 "culturally appropriate hand-drawn pictures of people performing various actions" (Heaton & Xoyón 2016:504). Phonology was tested simultaneously with vocabulary production by selecting lexical ítems that contained sounds present in Kaqchikel absent in Spanish. Thirty-seven out of 53 students performed the production assessment. The assessments for the six children in the youngest group were not used as they were not proctored correctly. Students of all ages averaged 25-50% correct on the production task (Heaton & Xoyón 2016:511).

Heaton and Xoyón state that with regard to comprehension scores, "only 18/53 students performed above chance, most of whom were 5 and 6 years old. Why the primary students,

particularly the first and second graders, did not perform as well or better than the younger students is a matter of speculation" (2016:517). The age group in the Kaqchikel study relevant to the current language nest study were the three and four year olds. None of the 10 three-years olds and 0/6 four-year olds performed above chance on the comprehension portion. Children's scores on the comprehension assessment averaged 62.95%. The lowest score was 40%, and the highest was 93.33% correct. (Heaton & Xoyón 2016:516)

5.2.2 Prior acquisition assessments of language nests

Cooper, Arago-Kemp, Wylie, and Hodgen (2004) performed a longitudinal study of Māori language nests with the New Zealand Council for Educational Research.

Pasanen (2015) performed extensive research on Saami language nests. However, the publication is in Finnish. Due to the language of the publication, its contents were inaccessible for this dissertation. However, I was able to consult with Pasanen in person. The Saami language nest situation is covered in more detail in Chapter 10.

Other published acquisition assessments of language nests did not appear in the literature search I performed. Heritage language immersion daycare programs for languages that are not endangered were not included (i.e. languages that have dominant status in some location, even if the language program is in a diaspora location, e.g. Bulgarian, Spanish, Korean, etc. language programs outside of the countries that speak those as a majority language).

The literature reviewed in Chapter 5 formed the basis of the current study. The methods of the language nest acquisition assessments utilized in this dissertation are discussed in Chapter 6. Many of the methods are similar to those of the previous research discussed in Chapter 5.

Chapter 6

General methods for language nest pilot studies

6.1 Introduction

The second component of this dissertation involved acquisition assessments of children language nests. This chapter is about the general methods for the study. The details of the methods for each language nest case study will be discussed in the respective chapter for each language: Chapter 8 for Hawaiian, Chapter 9 for Mohawk, Chapter 10 for Inari Saami, and Chapter 11 for Māori.

In section 6.2 I briefly reference the methods used in previous literature. A more detailed discussion of the literature on acquisition can be found in Chapter 5. Section 6.3 provides the details of the methods used in the research for this dissertation. Finally, section 6.4 contains recommendations for constructing a picture task assessment for a similar type of study involving children.

6.2 Methods of previous research

The methods of relevant studies have been discussed in Chapter 5. The research areas with methods relevant to the acquisition assessment in the current study include: child language

acquisition assessments, lexical competence, syntactic competence, acquisition assessments of children in language immersion programs, assessments of endangered language programs, and acquisition assessments in immersion language nests in particular. The most pertinent methods were those used by McDaniel et al. 1997 and Heaton and Xoyón 2016.

6.3 Methods of picture task pilot studies in this dissertation

The acquisition assessments measured comprehension and production of vocabulary and comprehension of basic coding strategies. The Hawaiian and Māori case studies also measured comprehension of negation, and other morphosyntactic features.

Each of the language nest acquisition assessments involved a picture task conducted on PowerPoint slides. Assessments were based on picture task methods in *Methods for Assessing Children's Syntax* (McDaniel et al. 1996), as well as in by Peter et al. 2008 and Heaton and Xoyón 2016. A fluent speaker proctored the test by uttering sentences with the grammatical features.

6.3.1 Comprehension picture task activity

The picture task activity measured comprehension of vocabulary and basic transitive sentences. In the Māori and Hawaiian case studies, negation as well as third person singular, dual, and plural pronoun distinctions.

The comprehension section contained 40-50 basic vocabulary words with slight differences across different language nests. All of the assessments included the basic colors red, yellow, blue, and green, the numerals 1 to 10, basic nouns (e.g. man, woman, girl, boy, animals), body parts (some basic, some more advanced), verbs (e.g. eating, running, sitting, standing,

crying), basic adjectives (happy, sad, big, small), and basic coding strategies—whether the child could determine the picture that matched sentences in which the nouns that served as subject and object of a transitive sentence were switched.

The primary difference in the content of the test was in the animals chosen. An attempt was made to select animals that were relevant to the environment and culture of the child. Most of the other lexical items were constant across the different language nests studies.

Each child's picture task took about 10-15 minutes. Some children were faster. There were a few test runs that could not be used, as the child gave up in frustration if they did not know, or got distracted and ran away part way through if they saw other children playing. Children were reassured that they did not have to do it if they did not want to. If a child did not want to finish, they ran off and we did not complete it. Some children actually enjoyed the activity and wanted to do it repeatedly because they liked looking at the pictures. Other children wanted a chance to try it because they had seen another child get to do it. Typically, the children who wanted to do the activity and asked if they could be next did very well on the assessments and knew the answers. For these it seemed that perhaps they wanted to do the activity to show their knowledge. Most of the children did not express a preference one way or the other.

In each case, the list of vocabulary items was reviewed by a teacher and/or an administrator from each language nest prior to running the experiment to confirm that the words on the list were known to the children. If the teacher identified words on the list that were unfamiliar to the children and requested that they be replaced with words that the children would know, the words were replaced. Some teachers said that they were not sure if the children would know certain vocabulary items, but that they wanted to keep those words on the assessment

because it would be good to know whether or not the children knew them. Suggestions from teachers were incorporated. The acquisition assessments were a collaborative effort.

Adjectives that were tested were contrasted with their opposite, with all other details remaining constant. For example, to test for “big,” the child was shown one picture of a small flower and one picture of a larger flower.

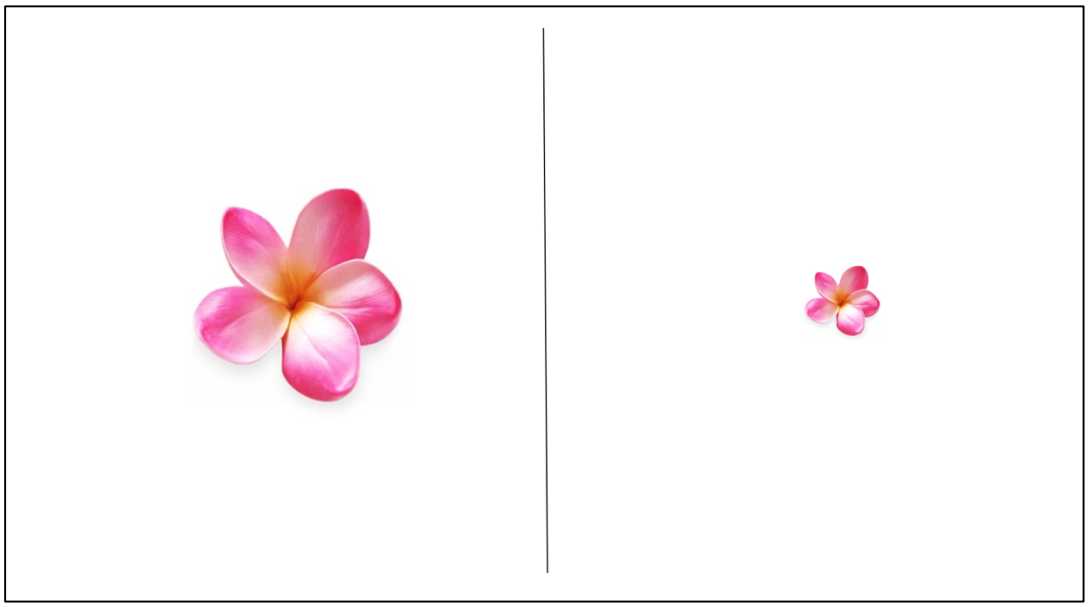


Figure 6.1. Contrastive pictures to test comprehension of the adjectives “big” and “small” in target languages.

The prompt was, “Point to the picture with the big flower.”

For “happy,” the child was shown two pictures of a boy—one in which the boy was smiling, and one in which the boy was frowning. The child was asked to, “Point to the picture of the boy that is happy.”

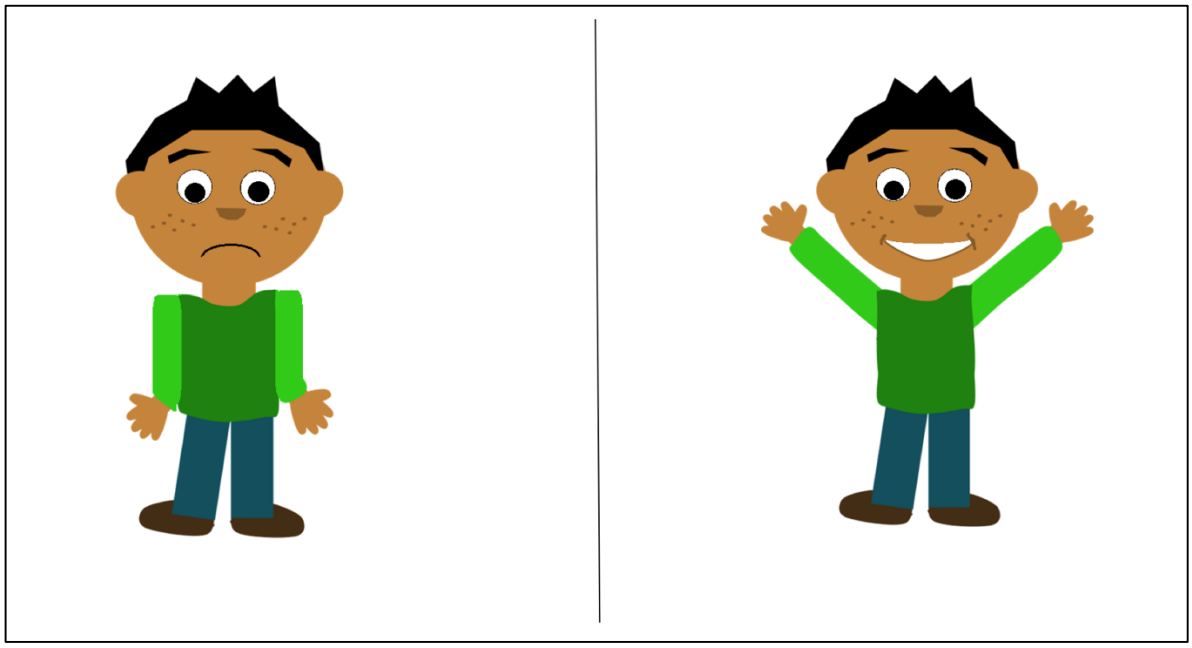


Figure 6.2. Picture to test comprehension of the adjectives “happy” and “sad”

The same two contrasting pictures (e.g. the happy boy and the sad boy) were shown to the child to test for negation. This time, children were asked to “Point to the picture in which the boy is *not* sad.”

For basic transitive sentences, two identical pictures of a boy and a dog were shown, with only the direction they were facing switched. In one, the boy was looking at the dog. In the other, the dog was looking at the boy. None of the languages tested have animacy hierarchies, so simply switching the roles of agent and patient could reveal if the child understood basic transitive sentences in the target language.

To test children’s comprehension of the distinction between third person singular, dual, and plural pronouns, identical pictures with only the number of children sitting were shown.

Each possible contrastive pairing permutation was used to ensure comprehension of distinctions between each of the number categories. In other words, one child sitting was contrasted with three in one item, two children sitting was contrasted with three in another item, and two children sitting were contrasted with one child sitting in another item.

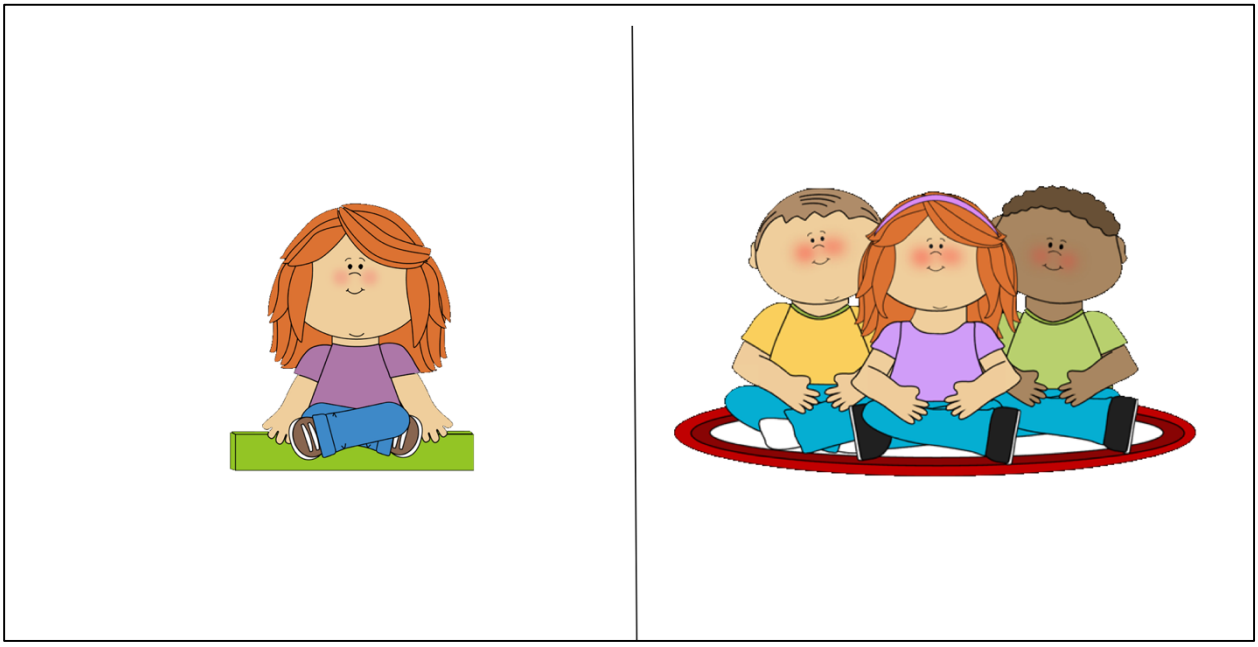


Figure 6.3. Picture used to assess comprehension of distinctions between third person singular and plural. Similar pictures used to test singular and dual as well as dual and plural distinctions.

These were all the possible permutations of contrastive pairings for third person pronoun distinctions by number in Hawaiian and in Māori.

6.3.1.1 Permissions

This research received an Institutional Review Board (IRB) exemption, as the picture-task activity was conducted in an educational setting (language nest daycares/preschools) as part of the children's daily activities. Language nest teachers proctored the activity. The teachers said the words and instructions in the respective target language, while I switched the Powerpoint slides and took notes. If children did not want to participate, they did not have to. If children wanted to leave during the activity due to distraction or to play with other children, they were free to do so. Some children did lose attention part way through and left to play, which was one factor contributing to the small numbers of results.[19]

6.3.2 Production picture task activity

The second section of the picture task activity assessed children's production of vocabulary. The production portion of the picture task assessment was conducted similarly to the comprehension portion, via a Powerpoint slideshow. However, in the production section, each slide contained only one picture.

[19] Some language nest directors and teachers opted to forward my email to parents to get their permission to do the activity. Others spoke to parents individually. At other language nests, parental permission forms I provided were signed and copies were returned to me. The method used was based on the requests of the language.

Figure 6.4. Picture to elicit production of the word “fish” in target languages. The prompt was, “What is that?”

For colors, the child was asked, “What color is that?” For nouns, they were asked, “What is that?” For verbs, the child was asked, “What is the boy/girl doing?”

6.4 Suggestions for future use

In summary, if one is going to attempt an experimental picture task assessment for the first time, I would make the following recommendations based on our trials and errors. First, I would start out using picture images that will be familiar to the child (which we tried to do). At least some of the pictures of people or children should be representative of the children/people participating in the study, unless responses to different images of people are part of the study itself. As there were a variety of children, images of children with different skin and hair color

were used in different pictures in the task. It is also important if using drawings or cartoon images to try to avoid pictures that could remotely resemble popular cartoon characters if eliciting for general generic nouns.

It would also be most efficient to use PowerPoint or some other slideshow program from the start. In addition, it would have been more helpful to have two devices—e.g. an iPad and a laptop, or two laptops. On one of the devices the picture task could be proctored. On the other device, the researcher could mark the results in a spreadsheet immediately. This would streamline the process by removing the extra step of writing down the results on paper, then transferring them to a digital file. In addition, I would put the slide numbers in the spreadsheet to know exactly which response was for which slide. It would be one of the easiest ways to keep track of responses this way. I also kept notes for each response that the child gave a word in a different language. For example, sometimes—though rarely—a child would say the word of the picture in English or Finnish (the dominant contact language). This also seemed of interest.

Chapter 7

Hawaiian

7.1 Introduction

This chapter provides background of the Hawaiian language and its structure, a brief history of Hawaiian language revitalization, a background of the Hawaiian language nest program, *Aha Pūnana Leo*, the results of interviews at Hawaiian language nests, and the methodology and results of a picture task assessment carried out at a Hawaiian language nest.

7.2 Background

The Hawaiian language schools, although flourishing now, did not start without opposition. There are 21 public schools in Hawai‘i that offer instruction completely in Hawaiian language immersion. They are:

Hawai‘i Island

1 Ka ‘Umeke Kā‘eo
222 Desha Avenue
Hilo, HI 96720-4815
Phone: (808) 933-1295
Fax: (808) 933-2644

2 Kula ‘o Nāwahīokalani‘ōpu‘u Nui
Kula ‘o Nāwahīokalani‘ōpu‘u Iki
16-120 ‘Ōpūkaha‘ia Street
Kea‘au, HI 96749-8143
Phone: (808) 982-4260

O‘ahu

12 Hau‘ula Elementary School
Kula Kaiapuni ‘o Ko‘olauloa
54-046 Kamehameha Highway
Hau‘ula, HI 96717-9647
Phone: (808) 293-8925
Fax: (808) 293-8927

13 Kula ‘o Samuel M. Kamakau
45-037 Kāne‘ohe Bay Drive
Kāne‘ohe, HI 96744-2417
Phone: (808) 247-0997
Fax: (808) 247-0993

Fax: (808) 966-7821

3 Ke Kula ʻo ʻEhunikaimalino
Kula Kaiapuni ʻo Konawaena
P O Box 9009
Kealakekua, HI 96750-9009
Phone: (808) 323-0021
Fax: (808) 323-7597

4 ʻAlo Kēhau o ka ʻĀina Mauna
64-756 Mamalahoa Hwy.
Kamuela, HI 96743-8429
Phone: (808) 885-7166
Fax: (808) 885-2704

Maui Island

5 Pāʼia Elementary School
Kula Kaiapuni ʻo Pāʻia
955 Baldwin Avenue
Pāʼia, HI 96779-9605
Phone: (808) 579-2100
Fax: (808) 579-2103

6 Samuela Enoka Kalama Intermediate School
Kula Kaiapuni ʻo Kalama
120 Makani Road
Makawao, HI 96768-8916
Phone: (808) 573-8735
Fax: (808) 573-8748

7 Kekaulike High School
Kula Kaiapuni ʻo Kekaulike
121 Kula Highway
Pukalani, HI 96768-8256
Phone: (808) 573-8710
Fax: (808) 573-2231

8 Princess Nāhiʼenaʼena Elementary School
Kula Kaiapuni ʻo Nāhiʻenaʻena
816 Niheu Street
Lahaina, HI 96761-2153
Phone: (808) 662-4020
Fax: (808) 662-4023

14 Pūʻōhala Elementary School
Kula Kaiapuni ʻo Pūʻōhala
45-233 Kulauli street
Kāneʻohe, HI 96744-2811
Phone: (808) 233-5660
Fax: (808) 233-5663

15 Kula Kaiapuni ʻo Ānuenue
2528 10th Avenue A-10
Honolulu, HI 96816-3031
Phone: (808) 733-8465
Fax: (808) 733-8467

16 Waiau Elementary School
Kula Kaiapuni ʻo Waiau
98-450 Hoʻokanikē Street
Pearl City, HI 96782
Phone: (808) 453-6530
Fax: (808) 453-6541

17 Nānākuli Elementary School
Kula Kaiapuni ʻo Nānākuli
89-778 Haleakalā Avenue
Waiʻanae, HI 96792-2351
Phone: (808) 668-5813
Fax: (808) 668-5817

Kauaʻi

18 Kapaʻa Elementary School
Kula Kaiapuni ʻo Kapaʻa, Kula Haʻahaʻa
4886 Kahaihau Road
Kapaʻa, HI 96746-1930
Phone: (808) 821-4424
Fax: (808) 821-4431

19 Kapaʻa Middle School
Kula Kaiapuni ʻo Kapaʻa, Kula Waena
4867 Olohena Road
Kapaʻa, HI 96746-1737
Phone: (808) 821-4460
Fax: (808) 821-6967

Molokaʻi Island

9 Kualapuʻu Elementary School
Kula Kaiapuni ʻo Kualapuʻu
P O Box 260
Kualapuʻu, HI 96757-0260
Phone: (808) 567-6900
Fax: (808) 567-6906

10 Molokaʻi High & Intermediate School
Ke Kula ʻo Hina i ka Mālama
P O Box 158
Hoʻolehua, HI 96729-0158
Phone: (808) 567-6950
Fax: (808) 567-6960

Niʻihau

11 Kula Niʻihau
c/o Waimea High School
P O Box 339
Waimea, HI 96796-0339
Phone: (808) 338-6800
Fax: (808) 338-6807

20 Kapaʻa High School
Kula Kaiapuni ʻo Kapaʻa, Kula Kiʻekiʻe
4695 Mailihuna Road
Kapaʻa, HI 96746-2051
Phone: (808) 821-4400 x226
Fax: (808) 821-4420

21 Kula Niʻihau ʻo Kekaha
P O Box 129
Kekaha, HI 96752-0129
Phone: (808) 337-0481
Fax: (808) 337-1289

Table 7.1. Hawaiian language immersion schools in Hawaiʻi, available online at: http://www.ahapunanaleo.org/index.php?/programs/ohana_info/list_of_immersion_and_hawaiian_medium_education_schools/

7.2.1 Background of the Hawaiian language

The Hawaiian language is a Polynesian language, part of the Eastern Malayo-Polynesian subgroup of the Austronesian language family. It is spoken in Hawaiʻi. Although traditionally recognized as geographically and politically independent from other Polynesian languages, Hawaiian has a degree of mutually intelligible with and lexical similarity to Māori, Samoan, Rarotongan (Cook Islands Maori), Tahitian, and Rapa Nui. It is spoken by approximately 2,000 people in the Hawaiian Islands. The majority of speakers are learning it as a second language, with English, Hawaii English, or Hawaiian Creole English as their first language(s). Hawaiian is

still spoken as a first language by some of the people who live on Niʻihau and by a small community in Kekaha on the island of Kauaʻi (NeSmith 2009).

Hawaiian language word order is VSO (verb-subject-object). It has 13 phonemes. An "interim orthography" was used from 1820 to 1825 (Schütz 1994:99). The current orthography was developed in 1827. It has 13 letters corresponding to the 13 phonemes.

One of the many structural features that distinguishes it from English are that definite and indefinite articles and number fuse together in portmanteau morphemes, as seen in Table 7.2.

Table 7.2. Hawaiian articles

	singular		plural
	preceding word-initial /k/ or vowels	elsewhere	
definite article	*ke*	*ka*	*na*
indefinite article	*he*		*he mau*

This feature was relevant to the study, as part of the picture task activity involved measuring comprehension of singular versus plural definite articles.

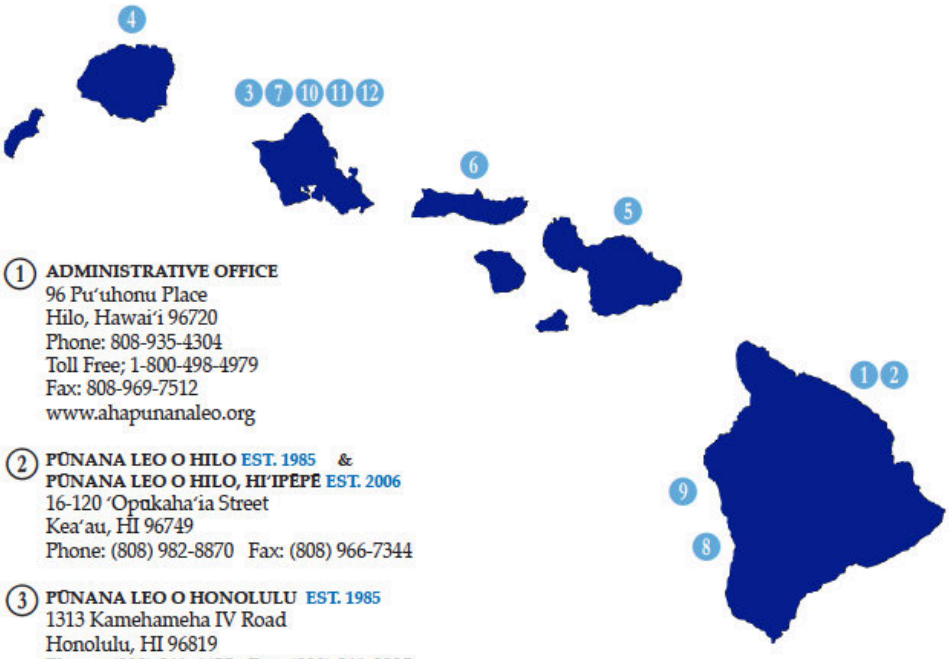
7.2.2 Background of Hawaiian language nests

On January 12, 1983 *ʻAha Pūnana Leo Inc.*, "The Language Nest Corporation" was established. Ilei Beniamina, Hōkūlani Cleeland, Kauanoe Kamanā, Larry Kimura, Noʻeau Warner, Koki Williams, and Pila Wilson gathered together at Cleeland's home on Kauaʻi Island. This was a grassroots effort.

In 1986, the children who graduated from an *ʻAha Pūnana Leo* on Oʻahu were required to attend the Student with Limited English Proficiency (SLEP) program for kindergarten[20]. In addition, there was an attempt to revoke the law from the 1800s that prohibited schools to be conducted in Hawaiian. That attempt was rejected. In response, parents in Hilo who wanted their children to get their education in Hawaiian boycotted the public school system and started their own Hawaiian language immersion schools. In response, the law eventually was changed to allow for public schools to be conducted in Hawaiian language immersion if they file under an experimental school exemption.

34 years later after the initial organization of *ʻAha Pūnana Leo Inc.*, there are currently 13 Hawaiian language nests under the *ʻAha Pūnana Leo* organization[21] and 21 Hawaiian immersion public schools. I visited and interviewed a couple of different Hawaiian language nests. The first case study for this dissertation was conducted at one of the Hawaiian language nests in the early Spring of 2016.[22]

[20] http://www.ahapunanaleo.org/index.php?/about/a_timeline_of_revitalization/
[21] http://www.ahapunanaleo.org/index.php?/programs/youth_programs_-_punana_leo/
[22] This dissertation does not use the specific name of the language nest at which the case study was conducted in order to comply with ʻAha Pūnana Leo privacy policies. The interview at ʻAha Pūnana Leo o Mānoa could be mentioned by name, because no work was done there with *keiki* (children) directly, as it was an interview with the site director.



1 ADMINISTRATIVE OFFICE
96 Pu'uhonu Place
Hilo, Hawai'i 96720
Phone: 808-935-4304
Toll Free; 1-800-498-4979
Fax: 808-969-7512
www.ahapunanaleo.org

2 PŪNANA LEO O HILO EST. 1985 &
PŪNANA LEO O HILO, HI'IPĒPĒ EST. 2006
16-120 'Opukaha'ia Street
Kea'au, HI 96749
Phone: (808) 982-8870 Fax: (808) 966-7344

3 PŪNANA LEO O HONOLULU EST. 1985
1313 Kamehameha IV Road
Honolulu, HI 96819
Phone: (808) 841-6655 Fax: (808) 841-3295

4 PŪNANA LEO O KAUA'I EST. 1987
3-1821 Kaumuali'i Highway
Lihu'e, HI 96766-7093
Phone: (808) 245-1755 Fax: (808) 245-8672

5 PŪNANA LEO O MAUI EST. 1987
103 South High Street
Wailuku, HI 96793
Phone: (808) 244-5676 Fax: (808) 244-0534

6 PŪNANA LEO O MOLOKA'I EST. 1991
2200 Farrington Avenue
Ho'olehua, HI 96729
Phone: (808) 567-9211 Fax: (808) 567-6514

7 PŪNANA LEO O WAI'ANAE EST. 1993 &
PŪNANA LEO O WAI'ANAE, HI'IPĒPĒ EST. 2014
87-790 Kulauku St.
Wai'anae, HI 96792
Phone: (808) 620 9052 Fax: (808) 620-9053

8 PŪNANA LEO O KONA EST. 1994
81-1004 Kona Waena School Road
Kealakekua, HI 96750
Phone: (808) 323-8052 Fax: (808) 323-2746

9 PŪNANA LEO O WAIMEA EST. 1995
64-756 Mamalahoa Highway
Kamuela, HI 96743
Phone: (808) 885-7166 Fax: (808) 885-2704

10 PŪNANA LEO O KO'OLAU LOA EST. 1997
56-046 Kamehameha Highway #B-7
Hau'ula, HI 96717
Phone: (808) 293-4441 Fax: (808) 293-7914

11 PŪNANA LEO O MĀNOA EST. 2012
2331 Seaview Avenue
Honolulu, HI 96822
Phone: (808) 536-7999 Fax: (808) 536-7991

12 PŪNANA LEO O KO'OLAU POKO EST. 2013
45-233 Kulauli St. #C5 & C6
Kane'ohe, HI 96744
Phone: (808) 236-0397 Fax: (808) 235-8291

*In order of established date

Figure 7.1. 'Aha Pūnana Leo schools sites[23] as of 2015

[23] http://www.ahapunanaleo.org/images/Na_Honua_Kula.jpg

7.2.3 Background for this particular Hawaiian language nest

In this second Hawaiian language nest, the children ranged in age from three years old to five years old. The language nest had a closely organized daily schedule. Every morning children and teachers did a daily routine that included singing several songs in Hawaiian (including Hawai‘i Pono‘i), performing ‘*oli* (chants). After standing in a line singing and chanting in Hawaiian all together, all of the children sit on a carpet. In the next part of the morning routine, they talk about the weather of the day, the month, the day of the week, and even the phase of the moon—Hawaiian has a different name for each night’s phase of the moon. All of this routine happens in the Hawaiian language. Children take turns leading the morning schedule each day. One child stands in the front with a pointing stick and points to the calendar in Hawaiian on the wall, saying the month and day in Hawaiian. They point to a chart on the wall that has picture of the phases of the moon for every day of a lunar cycle with the Hawaiian names of each phase under each picture. There is another laminated poster on the wall that has pictures of different types of weather, with a Hawaiian word under each one. The teacher asks the children in Hawaiian what the weather is like that day. Some children answer windy, another says cold. Another child refutes that, saying it’s not cold. They argue about what the weather is like to them that day—all in Hawaiian. They do the motions of what the temperature feels like—for example, as they are talking about cold weather in Hawaiian, the child folds his arms and feigns shivering. When they finally come to an agreement as a group on one or two descriptions of the weather, the student leading that day takes those Velcro or taped laminated pictures and places the appropriate ones for the day at the top of the weather poster.

After the structured morning routine, the rest of the day consists of a variety of activities. The children have time to play outside on the playground in the yard. They have snacks and

lunch at lunchtime. After lunch they have a nap time. The teachers also create activities for the children to get to use their hands, be creative, and make projects. The teacher explains in Hawaiian how to do the activity. The children can then do the activity and ask questions in Hawaiian. For example, the teacher showed them how to weave construction paper together to make a basket and explained it in Hawaiian.

Before children can attend the language nest, their parents are required to fill out a form. The form describes parents' responsibilities if their children attend the language nest. These responsibilities include committing to being involved with the language nest a certain number of hours per month. Parents also help run fundraisers. After filling out the forms, parents have in person interviews with the language nest personnel as part of the selection process to determine which children are accepted into the language nest. This is necessary due to the long waitlist and the high demand for parents to enroll children in the language nest.

When teachers and staff talk with each other at the language nest, even in the office, they speak in Hawaiian. When they speak with staff at other Hawaiian language nests over the phone, those conversations are also in Hawaiian. Teachers and staff even email with organization directors in Hawaiian. When speaking to children at the language nest they use Hawaiian. Children are required to speak only Hawaiian at the language nest. During free play outdoors, a couple of the children sometimes try to sneak to a back corner of the playground to whisper to each other in English. Teachers keep a close watch and ask them to say it in Hawaiian. If they do not know how to say something in Hawaiian, they can ask the teachers and the teachers help them.

There are many professional posters on the wall in Hawaiian. There is also a small shelf of children's books in Hawaiian. The language nest is well stocked with toys, paper, pens, glue, and other craft supplies.

When asked what has helped make the language nest successful, the teachers replied "*ohana*" (family). The parents and families of the children are integral to keeping the language nest running.

7.3 Previous assessments in Hawaiian revitalization programs

There have been previous measurements of language acquisition in Hawaiian revitalization programs. Housman et al.'s study observed acquisition of nouns, demonstratives, locatives, verb markers, verbs, and other aspects of the grammar, including word order (Housman et al. 2011:32). This dissertation case study differs from Housman et al. in that it is conducted at a language nest rather than an immersion school. This study will build upon Housman et al. and will target other lexical items and morphosyntactic features. Prior to this, no acquisition literature existed on Hawaiian language nests.

7.4 Methods

Pukui and Elbert's Hawaiian dictionary (1986), the Hawaiian-English online dictionary *wehewehe.org*, and a fluent Hawaiian language instructor, Lono Ikuwa, a Hawaiian language university instructor and fluent speaker, were consulted for the Hawaiian language picture task prompts. I collaborated with language nest's site director to adapt the assessment to the children at that language nest.

The activity included comprehension of basic vocabulary (nouns, adjectives, verbs), numerals 1 through 10, basic transitive sentences, and two structural features: (1) negation and (2) the contrast between the singular and the plural definite article (*ka*/*ke* vs. *na*).

Five children ages four to five years old participated in the picture task activity. All of them had been in the language nest for at least two years. The five year olds were about to "graduate" from the language nest and would be starting kindergarten later that year.

7.5 Results and analysis

The language nest had a very strong program. All five of the children who participated in the picture task activity responded correctly for 100% of the comprehension of basic transitive entences, negation, and the distinction between the singular and plural definite articles.

Table 7.3. Hawaiian comprehension results

	Child 1	Child 2	Child 3	Child 4	Child 5
Vocabulary correct	42/44	43/44	43/44	41/44	44/44
Transitive sentences	2/2	2/2	2/2	2/2	2/2
Negation	2/2	2/2	2/2	2/2	2/2
sg/pl definite article	1/1	1/1	1/1	1/1	1/1
Total:	47/49	48/49	48/49	46/49	49/49

In addition, they also understood almost 100% of the vocabulary. Child 1 pointed to the correct picture 95% of the time; Child 2 and Child 3 understood 97% of the vocabulary; Child 4 answered the vocabulary correctly 93% of the time, and Child 5 got 100% of the vocabulary correct. Even Child 4 with 93% was still only four years old. This means these children not only understood all of these words and discerned the grammatical differences, but they also knew

their numerals—all in the Hawaiian language, and all before even beginning kindergarten. These children were also all bilingual—they could also speak English fluently, although they basically only spoke in Hawaiian at the language nest.

When numerals were removed from the total vocabulary, three out of the five children scored a perfect 100% across all of the vocabulary, transitive sentences, negation, and singular/plural distinction on nouns (marked on the definite article).

Table 7.4. Hawaiian comprehension results, without numerals

	Child 1	Child 2	Child 3	Child 4	Child 5
Vocabulary correct (without numerals)	33/34	34/34	33/34	34/34	34/34
Transitive sentences	2/2	2/2	2/2	2/2	2/2
Negation	2/2	2/2	2/2	2/2	2/2
sg/pl definite article	1/1	1/1	1/1	1/1	1/1
Total (without numerals):	38/39	39/39	38/39	39/39	39/39

The only vocabulary word that Child 1 missed was a verb they actually understood. There was a picture of a child sitting and a child standing. The prompt was originally, "Point to the picture of the girl sitting." However, Child 1 told the teacher that he thought that the child sitting looked like a boy (with long hair). Because of this, we changed the prompt to, "Point to the picture of the child who is sitting," in case there were differences in what children perceived

In addition, Child 2 correctly produced words that they were not required to, as the task only required pointing to the correct picture upon hearing the prompt in Hawaiian. For example, Child 2 said "*pepeiao*" ('ear') as they pointed to the picture of the ear. One child said, "*nani ka*

maka" ('the eye is pretty') after they pointed to the picture with the eyes, showing that the children were comfortable enough speaking Hawaiian that they would produce nouns or nouns with adjectives, even when not required to.

Child 3's father spoke Hawaiian; Child 4 and Child 5 each had a mother who spoke a little Hawaiian.

7.6 Conclusion

More than one child produced unsolicited spontaneous Hawaiian speech during the comprehension activity. In these spontaneous speech productions, they said complete sentences and used vocabulary—adjectives, etc.—that were beyond the scope of the activity. This spontaneous commentary in Hawaiian was very natural for the children. It revealed that their abilities in the language far exceeded a vocabulary comprehension test. They all performed well on the pilot study for basic transitive sentences, negation, and singular/plural distinction on nouns as marked by different definite articles. However, the activity in this dissertation was a pilot study. More tokens/assessment items would be needed to make accurate claims about acquisition.

Outside of the activity, children were observed interacting with each other in Hawaiian, even to talk about wanting a purple glue stick over the white one, etc., again revealing production of vocabulary beyond the activity. There are many options of Hawaiian immersion schools for children to attend after they graduate from the language nest to continue their learning.

Chapter 8

Mohawk

8.1 Introduction

The Mohawk language is an Iroquoian language spoken in Upstate New York, U.S. and Ontario, Canada. Mithun has worked extensively on the Mohawk language, and has worked with the Ahkwesahsne Mohawk on language efforts since the 1970s (Mithun 1975; 1977; 1979; 1984; 1992; 1996a; 1996b; 2005; 2006; 2009). Mithun's (1977) Mohawk spelling dictionary was in a binder in the language nest. We used Mithun 1977 as a reference for the vocabulary comprehension and production activities.

The Mohawk language nest participated in the picture task activity in the summer of 2016. The language nest is under a Mohawk immersion school and is located on the same grounds as the school. Children who graduate from the language nest typically attend the immersion school. The language nest facility is designed like a comfortable home with a living room, kitchen, two bathrooms, and two bedrooms. There are three language nest teachers and an elder who works at the language nest part-time.

8.2 Background of Mohawk language nest

The Mohawk language nest opened in June of 2014. The language nest accepts infants and toddlers from ages 1 to 4 years old. According to one of the language nest teachers, Emma Shenandoah, their language nest "offers a home-like environment for children to be exposed to the language in day-to-day life, avoiding a restrictive, formal classroom environment." Available resources include Mohawk dictionaries, songs, CDs, elders, and fluent speakers. An elder (*tota*) works part-time and helps with language for several hours each week.

Children have a routine of breakfast, play time, lunch, nap, and snacks. They also have games, songs, and chants that they do. During nap time, they have CDs playing traditional Mohawk chanting and drumming. The walls of the language nest are covered with the children's artwork and signs in Mohawk. They also have a spacious yard to play in. Language nest teachers provide healthful, natural foods for the children and avoid processed foods as much as possible. The youngest of the teachers had attended the Mohawk immersion school when she was younger. She then studied Mohawk in an English high school. At the English high school, the students who had attended Mohawk immersion previously were sometimes discriminated against by a teacher who assumed they were not able to speak English and were behind in their learning. In response, some of the students asked for English translators and pretended they only spoke Mohawk in response to the assumptions, although they spoke English fluently and understood everything in class. They later ended up scoring some of the top marks in the class on their science exams. They had learned a lot of the material in the Mohawk immersion school, and contrary to the fears of some parents or assumptions of others, being in an indigenous language immersion program in elementary and middle school did not "set them behind" academically.

The language nest is open all year around, from 7:30 am to 4:30 pm five days a week, Monday through Friday. Funding for the language nest comes from grants that personnel in the Freedom School office apply for. They also do fundraising—including a pie sale each November in which parents of children in the language nest make and sell 300 pies over four days. Each August the reservation also has an event called the Survival Race. Teams enter from all over the area. The Survival Race is a type of relay that involves several miles of running, canoeing, and other events. Teams pay an entry fee. It is a big event that all of the local community attends. It also attracts crowds from out of town. In conjunction with the Survival Race the school and the language nest hold fundraisers. They have an annual dinner and they do a quilt auction.

Some of the funding also comes from a settlement with the GM company. GM had been dumping PCB into their river upstream. Because of the contaminants, the tribe had to stop fishing in the river, swimming, and the water was no longer safe for them to drink. PCBs were banned in the U.S. in 1979 due to negative effects on human health and the environment. As part of the settlement there is some funding that goes to the language schools.

They also receive some support in the form of food donations from the ACR—Ahkwesahsne Cultural Restoration. The ACR is a four-year program with two masters in each of four cultural practices: (1) gardening/farming; (2) medicine; (3) fishing; and (4) hunting and trapping. The gardening/farming section donates squash, corn, apples, syrup, etc. to the language nest to help feed the children. These are all organically and locally grown.

One of the challenges the language nest has faced is that it is difficult to find fluent Mohawk speakers to hire. There are so few fluent native speakers to begin with, and, as mentioned previously, many of them are very elderly. During my two visits to Ahkwesahsne totaling three weeks, there were at least two funerals involving speakers of the language. In

addition, the teachers mentioned that it was difficult to find fluent speakers who would do the necessary paperwork to be hired. Working at the language nest requires paperwork to be filled out—both in the hiring process and in annual reports. The culture of writing reports and filling out paperwork is not part of traditional Mohawk culture that some of the fluent elderly speakers would want to do. Even some of the younger people do not use email very often, or do not have or use credit cards. It is a conscious choice to live this way, and credit cards and internet accounts are not necessary for life in Ahkwesahsne. That is not to say that no one has these; there are also definitely those who do. The language nest and the school had wifi.

The Ahkwesahsne Freedom School is a successful Mohawk language immersion school. On the grounds with the school is a language nest. Tara Ford is the director of the entire school system, including the language nest. *Owira'neha Tsi Kanonsote* is the Mohawk term for a language nest. There are three language nest teachers, all who have studied Mohawk as a second language. An elder, *tota*, is hired on part-time to come in three times a week to help with the language. The *tota* stays for three hours each time she visits—a total of nine hours a week in the language nest. Typically, all three teachers are present every day.

The capacity of the language nest is 10 children. During the school year, the language nest is at full capacity. They also have a wait list, as many families would like their children to attend the language nest. During the summer, there were seven children in regular attendance—one child who was 1 year and 8 months old, one 2-year old, three 3 to 3 ½-year olds, and two 4-year olds. The youngest child they will accept is typically 15 to 18 months, however they made an exception for an 11-month old baby. One child had a grandmother who spoke some Mohawk. Another child had parents who both spoke it as a second language. Another child had a

grandfather who spoke Mohawk. One child had parents who spoke very little Mohawk, but whose grandmother was fluent. Another child had no one in the family who could speak it.

8.3 Methods for Mohawk language nest case study

As with all of the picture task activities, the first part measured comprehension. Children were shown two pictures (e.g. a red square and a yellow square). A teacher instructed in Mohawk to point to one of the pictures; for example, "Point to the one that's red." The child would point to one of the pictures. There were 42 vocabulary items, comprised of nouns, adjectives, verbs, and numerals. Children were also given a comprehension task for basic transitive sentences. The results are in table 8.1.

8.4 Results and analysis of Mohawk language nest study

Section 9.4.1 reviews the results of children's responses to the comprehension section of the activity. Section 9.4.2. reviews their results for the production section. Children typically responded correctly a greater percent of the time on the comprehension section than on the production section, as would be expected.

8.4.1 Comprehension

Six children participated in the activity. However, one of the children was only a year old, and he ran away part way through, so only the results for five of the children were counted.

Table 8.1. Mohawk comprehension results

	Child 1	Child 2	Child 3	Child 4	Child 5
Vocabulary correct	37/42	33/42	21/42	25/42	31/42
Transitive sentence	2/2	2/2	0/2	0/2	2/2

Children 1, 2, and 5 were older and had been in the language nest longer. Three out of the five children (Child 1, 2, and 5) correctly understood both of the transitive sentences correctly. These were the three older children. These three older children also responded correctly for more of the vocabulary. This is to be expected as the younger children did not yet have as much time in the language nest, and so they did not have the cumulative Mohawk language exposure that the older children had.

The highest vocabulary response was 88% (37/42); with the lowest being 21/42 (50%--what could be expected by chance). The second lowest was 60% (25/42). Four out of the five children responded correctly more than would be expected by chance. The three older children got 88%, 79%, and 74% of the vocabulary correct, and all three understood 100% of the transitive sentences correctly.

8.4.2 Production

The production portion of the picture task involved responses to 38 vocabulary words. The responses were both somewhat expected and somewhat surprising. Child 1, 2, and 5 did very similarly on the comprehension activity. Their production results differed from each other more than expected—with differences of 7 words (35:28) and 21 words (28:7) in production. Child 3 chose not to participate in the production activity.

Table 8.2. Mohawk production results

	Child 1	Child 2	Child 3	Child 4	Child 5
Vocabulary correct	35/38	28/38	/	7/38	7/38

Child 1 produced 83% of the vocabulary correctly (compared with 88% for comprehension). Child 2 produced 67% of the vocabulary correctly (compared with 79% for comprehension); and Child 5 produced 17% of the vocabulary correctly (compared with 74% for comprehension). Whatever differences there were in comprehension were multiplied with comprehension.

8.5 Conclusion

As expected, older children who had more time in the language nest understood and produced more of the vocabulary and better understood basic transitive sentences. Also unsurprisingly, those who understood more also produced more vocabulary. However, one unexpected result was the dramatic differences in production when compared with only slight differences in comprehension. Whatever differences there were in comprehension were multiplied with production. In addition, the child who had the most language at home also understood and produced the most.

Chapter 9

Inari Saami

9.1 Introduction

This chapter concerns the Inari Saami language nest acquisition assessment performed as part of this study. Section 9.2 provides a brief background of the Inari Saami language, the context of the language situation in Finland, and background information about this particular language nest. Section 9.3 contains the methods of the acquisition assessment at the Inari Saami language nest. The results of the assessment are presented in section 9.4.

9.2 Background

This section covers the background of the Inari Saami language (in 9.2.1), a brief literature review of Inari Saami language revitalization (section 9.2.2), and a background of the Inari Saami language nest (9.2.3) where the case study was conducted. Section 9.2.1 includes a brief typological linguistic description of Inari Saami and metadata about the locations where it is spoken and the number of speakers. The background of the Inari Saami language nest in 9.2.2. includes its context in the language nest situation in Finland. Reindeer and fish are significant animals in Saami culture (Olthuis, Kiveä, & Skutnabb-Kangas 2013:71).

9.2.1 Inari Saami language background

Inari Saami (also known as Aanaar Saami or Anarâskiela) is a Uralic (Finno-Ugric) Saami language, also written Sámi or Sami. It is spoken in Finland's central Inari County of Lapland Province. Three Saami languages are spoken in Finland: Inari Saami, Northern Saami, and Skolt Saami. Each of the Saami languages have different historical contact languages from which they have received linguistic influence. For example, Inari Saami has influence primarily from Finnish, with some influence from Swedish. Skolt Saami has some Russian influence.

Inari Sami's dominant language context differs from the other language nest case studies in this dissertation. The targeted endangered languages of the other language nest case studies are in contact with dominant languages to which they have no genetic relation (e.g. Hawaiian and English; Mohawk and English; Māori and New Zealand English). Inari Sami's dominant contact language is Finnish. Saami and Finnish both belong to the Finnic (Balto-Finnic) branch of the Uralic language family. However, the Saami languages are still much more distant from Finnish than other Finnic languages (e.g. Estonian, Livonian, etc.).

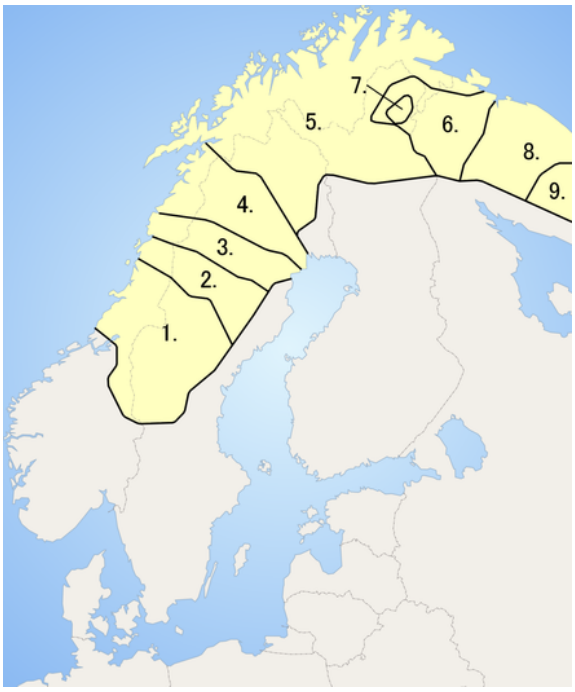


Figure 9.1. These are the areas of different Saami languages.
Number 7 is where Inari Saami is spoken.

There are approximately 350 Inari Saami speakers (Olthuis, Kivelä, & Skutnabb-Kangas 2013:23). All Inari Saami speakers are multilingual. It has been estimated that Inari Saami has never had a large number of speakers, and that even when it had its greatest number of speakers, there were never more than about 1,000. (Salminen 1993). It is categorized as "endangered" in ELCat (2017) on the Language Endangerment Index.

9.2.2 Literature review

Olthuis, Kivelä, and Skutnabb-Kangas performed pioneering research on improving the efficacy of language revitalization efforts. Their findings are published in the pivotal book,

Revitalizing Indigenous Languages: How to Recreate a Lost Generation (Olthuis, Kivelä, & Skutnabb-Kangas 2013). Olthuis is Aanaar Saami and did doctoral dissertation on Aanaar Saami specie names. This led to her involvement in Aanaar Saami language revitalization. Kivelä was originally recruited to CASLE as a journalist, but instead became a participant in the Master-Apprentice program as a language-learner. The Inari Saami language nest was established by Anarâškielâservi (the Inari Saami language association). The father of of the Inarisaami language nest was chairman Matti Morottaja. The first Inari Saami language nest was established in 1997. In 2006 the Complementary Aanaar Saami Language Education (CASLE) was organized. CASLE used six primary methods to revitalize the Aanaar Saami language: (1) approaching the language as a foreign language (using verified methods from second language acquisition); (2) Master-Apprentice methods started in California; (3) immersion programs traditionally used for children adapted also for adults (including language nests); (4) bilingual education; (5) community-based programs; (6) a "language documentation model" by which they documented the CASLE program, including filming and audio recordings (Olthuis, Kivelä, & Skutnabb-Kangas 2013:35-36).

Olthuis, Kivelä, and Skutnabb-Kangas have described the language nests as the "backbone of AS revitalisation" (2013:48), where AS stand for Aanaar Saami (Inari Saami). They reported that the first Aanaar Saami language nest opened in 1997. It was modeled after the Māori *Kōhanga Reo*. They also incorporated advice from the Hawaiian language nests.

Pasanen defines a language nest as a crèche for children belonging to language minorities or indigenous people. In the language nest, all interaction happens in the minority language although the children don't speak it in the beginning" (Pasanen 2003:1). Olthuis, Kivelä, and Skutnabb-Kangas provide the following definition:

> Language nests are early childhood daycare/nursery/preschool/kindergarten/crèche arrangements for children from birth to school age. They are used by Indigenous peoples to revive or revitalise their languages, culture, and values. They are based on total immersion in the language, that is, only the Indigenous language is spoken. Fluent elders support the staff who are not necessarily fluent in the language; many of them are second-language speakers. They can likewise be used (and are being used, e.g. in Catalunya and elsewhere) for non-indigenous children who are later going to attend immersion programmes. (Olthuis, Kivelä, & Skutnabb-Kangas 2013:48)

Annika Pasanen wrote a dissertation and a book on Inari Saami language revitalization (Pasanen 2015). They are written in Finnish and are not yet available in English. However, the book does have a preface in English.

9.2.3 Background

The content of this section was derived primarily from Olthuis, Kivelä, and Skutnabb-Kangas 2013 and from an interview I conducted with Heli Aikio, the language nest coordinator at the Saami Parliament. The remainder of the content was from observations on a tour of Sajos, as they kindly gave me a tour around the Saami Parliament. Sajos is located in Inari (Aanaar), Finland, about 38 kilometers from Ivalo, Finland, and a few hour's drive to the border between Finland and Norway.

9.2.3.1 How to Recreate a Lost Generation

(Olthuis, Kivelä, & Skutnabb-Kangas 2013)

The first Aanaar Saami language nest was established in 1997. It was called *Kielâpiervâl*, and is now called simply *Piervâl* ('birdnest' in Inari Saami). In the first 15 years of the language

nest, 40 children learned the language (Olthuis, Kivelä, & Skutnabb-Kangas 2013:49). They decided they wanted to create more new speakers at a faster rate, and that establishing more language nests would be a way to do that. At first some thought that there would not be enough demand for three Aanaar Saami language nests, and they had to convince sponsors that there was a need. In 2010, the CASLE program produced the second Aanaar Saami language nest, *Piäju* in 2001. Almost a decade later, in 2010 *Kuáti*, the third Aanaar Saami language nest, was established.

9.2.3.2 Interview with Heli Aikio

The Saami language law was enacted in 1991, stating the rights to use Saami language(s) in official matters and to get documents in Saami languages. Five years later, in 1996, the Saami Parliament was established.

There are a total of 11 language nests in all of Finland: three Inari Saami language nests, two Skolt Saami language nests, and six Northern Saami language nests. The locations of the language nests are: 2 Inari Saami language nests in Inari and 1 in Ivalo; 1 Skolt Saami language nest in Ivalo and 1 in Čevetjävri (Sevettijärvi), and 1 North Saami language nest in each of the following places: Utsjoki, Karigasniemi, Vuotso, Rovaniemi, Oulu, and Helsinki.

At the time of the interview (September 2016), there were about 400 Inari Saami speakers. In the 1980s there were only 200 native speakers, and only 3 to 4 children spoke it as their mother tongue. Currently, there are about 8 children enrolled at each of the three Inari Saami language nests, with a total of 25 children learning Inari Saami in these nests. There are 4-10 children in each of the 11 Saami language nests in Finland, with a total of 73 children enrolled in language nests there.

Each language nest in Finland focuses on only one language. That one target language is the only language spoken at each language nest. Even when teachers and/or staff are communicating with each other at the language nest, they use the particular Saami language. Most language nest workers learned the target language as adults. A few language nests have elders assisting.

In Finland parents can enroll their children in a language nest or daycare from as young as 10 months. Usually they are from a year old to 6 or 7 years old. Children start going to school when they are 6 or 7. The ideal age is for children to start attending the language nest is 1 to 3 years old. If children are older than 4 years old when they enter the language nest, then they must have Saami language support outside of the language nest as well—at home or nearby.

Some parents have studied the language of the nest their children are attending. In the Inari Saami language nests, most parents have studied the Inari Saami language. If parents have not studied it before, when their children come to the language nest, parents study the language if possible. Skolt Saami started a language class for adults in the spring of 2016. The Inari Saami language class for adults started in 2010.

The cost of running a language nest in Finland varies. One worker makes an annual salary of 30,000€ to 40,000€. The salary for two workers costs about 80,000 €. Additional expenses include paying rent for the space where the language nest is held, food, and utilities. Some language nests run by the municipality. For those, parents pay tuition to the municipality. The Inari Saami language nests operate slightly differently, as they go through the Inari Saami Association. The Inari Saami Association pays workers. State money goes to the Saami Parliament, Sajos, which then goes to the Inari municipality. The municipality buys the language nest service from the Inari Language Society. Inari Saami is the only language that works in that way in Finland.

Language nests for other languages, e.g. Skolt Saami, work directly with the municipality without an intermediary association. The state provides 85% of the funding. The municipality provides 15%. Parents pay the tuition which goes towards the 15% of the funding from the municipality. How much a parent pays depends on the parent's salary. If parents' income is lower, their child's language nest tuition is lowered. If a child is in the language nest for 5-7 hours/day, it costs about 283€/month. If the child is in the language nest for less than 5 hours a day, monthly tuition is cheaper.

There is a Saami plan for early childhood education. Each individual teacher adapts it to their specific children's needs. The curriculum is a one-year plan based on the Saami traditional eight seasons and on Saami culture.

The language nests run all year around except in July. July is the one month off per year for vacation. In the other eleven months, the language nest runs five days a week—Monday through Friday—from 7:30 am to 4:30 pm. The child must attend a minimum of 26 hours per week, and can attend up to 37 hours.

In some language nests, there is only one teacher. In others, there are two teachers. Finnish early childhood education laws require that there be a minimum of one adult worker for every five children present at the language nest. If six children are there at once, there must be at least two language nest workers present.

The language nests have an ethnic requirement for participants. In order for children to attend the language nest, they must have Saami ancestry. However, technically it does not matter which Saami group the child belongs to. For example, a child may be Northern Saami by ethnicity, but their parents could send the child to an Inari Saami language nest (as was the case with two of the children at the language nest which I visited).

The Saami Parliament seeks funding from the Finnish government. Language nests get funding from the Saami Parliament. Language nests propose what they are doing and why they need the funding. After one year, the language nests submit a report explaining how they spent the money, how many children enrolled in the language nest that year, etc. Each language nest writes their own report and sends it to the language nest coordinator at the Saami Parliament. The coordinator then combines the reports and gives the reports to the State.

Some of the practices found to helpful at the language nest are to play with the children and talk to them in the language all the time. If children say something in Finnish, teachers always try to repeat it in Saami. One of the keys is always to be talking and playing with the children, because if they do not yet have skills in the target language, if left together they will switch to Finnish.

There is also a materials book online for workers and parents. It was completed in the spring of 2016. This resource can be found at the URL kuati.fi. It was produced by the Saami Parliament which hired three workers with the help of state funding. Workers represented all Saami languages, and the material was translated into the various Saami languages. This project was a result of collaboration with the Saami Educational Center, the Saami Film Institute, and the Saami Parliament. The workers who were hired made the films, stories, and the content primarily independently. In addition, they also received material from collaborators. The Saami Parliament has an Educational Office. This Educational Office publishes learning materials and translations of popular books (e.g. Antoine Saint-Exupéry's *The Little Prince*) into each of the three Saami languages in the country. Some books are written and published only in Saami languages. Most of the time, school books are translated from Finnish into the Saami languages. They also produce original Saami board games in the languages. These games also depict aspects of Saami culture.

Heli Aikio expressed that they are happy that they have language nests. Currently in Ivalo they have a Skolt Saami language nest, but they do not have Skolt Saami language classes for older children. The next goal is to have immersion in the Saami language classes in school in every place that has a language nest for that same Saami language, so that children have a follow up program after graduating from the language nest.

9.3 Methods

At the Inari Saami language nest, we completed the activity with the three young toddlers who were present. In accordance with the Finnish federal government's privacy regulations, the exact ages of the children are kept private. However, generally it was a language nest for younger toddlers, so we do know that all of the children who participated were younger than three years old. In addition, in order to protect privacy, we did not take any pictures of the children nor did we record the audio. Instead, we instantly assessed the responses collaboratively with the simultaneous interpreter who was fluent in Inari Saami, Finnish, and English. The language nest teacher was also fluent in Inari Saami and Finnish, and knew all of the vocabulary words in the assessment in English.

Suvi Kivelä, a fluent Inari Saami speaker who was one of the core people in CASLE, a co-author of *Revitalizing Indigenous Languages* (2013), and is one of the individuals who established the language nest in the beginning kindly volunteered to serve as interpreter. Kivelä is currently an archivist at Sajos. In this study, she uttered the prompts while the child participating in the picture task sat on a language nest caregiver's lap on a couch at a coffee table. The language nest

had a very relaxed, home-like environment. The fluent speaker who was interpreting had helped establish the nest originally years ago and her own children had gone through it.

During the production assessment, when we attempted the section on numerals, the children did not seem to be able to produce them. The language nest worker/caregiver requested that we skip the numerals in the production task, so we did. At that point we had already completed the comprehension portion of the picture task, including numerals. To test comprehension of basic sentence structure for transitive sentences, we asked the children to point to the picture in which the dog was looking at the boy, then to point to the picture in which the boy was looking at the dog.

9.4 Results and analysis

The children in the Inari Saami language nest performed surprisingly well, considering they were much younger than most of the children who participated in the picture task in the rest of the study. While we do not know the exact ages of the children who participated, we do know that all of them were younger than three years old. We also know that one of them was younger than another, as two of the children were siblings and were not twins.

9.4.1 Comprehension

The comprehension portion of the picture task was conducted with all three children. The results are in table 9.1.

Table 9.1. Inari Saami: Comprehension results

	Child 1	Child 2	Child 3
Vocabulary correct	37/42	40/42	36/42
Transitive sentence	2/2	2/2	2/2

Child 1 pointed to the correct picture 37 out of 42 times, which is 88% of the time. Child 2 understood the prompt and pointed to the correct picture 40 out of 42 times, which equals more than 95%. Child 3 answered 36 out of 42 comprehension prompts correctly, which is 85.7%, almost 86%.

All three children pointed to the correct image 100% of the time when they heard the prompt for a basic transitive sentence, implying that the understood which item was the subject and which noun was the direct object.

9.4.2 Production

In the production section of the picture task, the language nest teacher asked if we could skip the numerals, because the children were too young for those. Out of 37 production prompts, 10 were numerals (1 through 10). This left 27 production items. The results are in table 9.2.

Table 9.2. Inari Saami: Production results not including numerals

	Child 1	Child 2	Child 3
Vocabulary correct	22/27	23/27	23/27

Child 1 correctly produced 22 out of 27 prompts when shown a picture (81.5%). Child 2 and Child

3 each said the correct word in Inari Saami for 23 of the 27 prompts (85.2%). The only words

Child 1 missed were: finger, head, stomach, man, and the verb for "sitting." When shown the picture of the foot, Child 1 said the Inari Saami word for "toes," which was considered an even higher order lexical item to know, as it has more nuanced semantics and it may occur less frequently in the child's input. This response was considered correct. When Child 1 saw the picture of the turtle, they answered correctly in Finnish ("*kilpikonna*" 'turtle'). However, this was marked as incorrect, since it was not in Inari Saami. This seemed to have primed her, as she started to produce the response to the next picture in Finnish as well ("*karhu*" 'bear'), but when prompted by the caregiver to use Inari Saami, she correctly said the word for "bear" in Inari Saami. After the picture task, the teacher asked the children what the pictures of the animals on the wall were. She asked in Inari Saami, and they responded in Inari Saami as well. There were pictures of reindeer (a culturally significant animal) and other animals.

Any assessment has its limitations in that it cannot test absolutely everything the child knows and it may test some things to which the child has not been exposed. The greater number of prompts that include the child's common knowledge, the higher the scores will appear. For all of the other prompts besides "turtle" and numerals two to 10, at least one child answered correctly.

Often the children provided a more linguistically rich answer than was expected or required by the prompt. For example, the interpreter said that Child 1 gave the plural form for "eye" when seeing the picture, because there were two eyes in the picture. Even more impressive, when seeing the picture of a rock, Child 1 said the word for "rock" in Inari Saami. The child then chattered in Inari Saami to the two Inari Saami-speaking adults present. The interpreter said the child started talking about how you can draw on rocks and how she had been given some chalk to draw on rocks. This was all said in Inari Saami.

The children at the Inari Saami language nest also had other examples of richer than expected or required linguistic material in response to a picture prompt. When child 2 saw the picture for "stomach," she said, "*styeres cuávji*," ('big stomach' in Inari Saami).

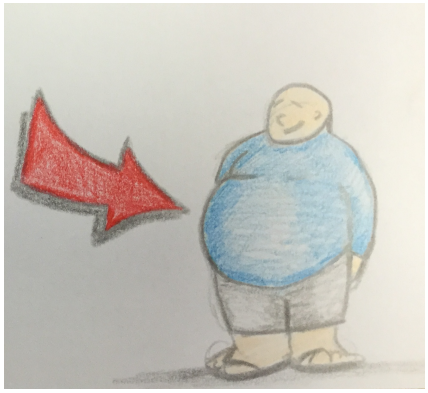


Figure 9-2. Image for "stomach" in the picture task activity[24]

When Child 2 saw the picture of the man, she said "I don't know" in Inari Saami. For the word for "wolf," she first metathesized it—"*kimpu*," then corrected it and said, "*kumpi*." Both Child 1 and Child 2 said the Inari Saami word for "leg" in response to seeing the picture of the knee. This was marked as correct, since technically it was a leg. However, Child 3 said the Inari Saami word for "knee" upon seeing the same picture. Child 2 also did not say anything in response to seeing the picture of the man. This was marked as a null response. However, the caregiver used it as a teaching moment and told the child the correct word. After hearing it once, the child said it and continued repeating it to herself on her own.

[24] Illustration by Derek Koller

Rather than just saying the minimum—single word responses—Child 3 answered in complete sentences for every single production prompt.

9.5 Conclusion

Inari Saami language revitalization has been extremely successful. A group of dedicated individuals has been able to save the language from the brink of extinction. This is an example of a successful language nest with very strong community support, steady government funding, and strong family support. It is a unique situation in that Sajos provides a solid infrastructure to coordinate language nest efforts. The language nest is able to run on government funding in conjunction with *Anârškielâ servi*, the Aanaar Saami Association. There is follow-up for children in a second language nest for older children and for immersion classes after children "graduate" from the language nests. There is often also language support for children in their homes with the master-apprentice programs available to parents.

Advice they had for those who want to start a language nest was that it requires being creative. They also said "Don't give up," and that there is always some kind of way to solve whatever problems arise. Someone from Japan had visited with them to get advice, as they were considering starting an Ainu language nest.

Another comment Sajos had was that in a language nest, children need to hear the language every day. They said if you want children to become fluent in the language, it is not enough for them to hear it only hour a week.

Chapter 10

Māori

10.1 Introduction

There are currently approximately 200 Kōhanga Reo (Māori language nests) in New Zealand. Kōhanga Reo is an umbrella organization that has its own administration, funding, and curriculum. There are also Māori language nests called *pūnana reo* that operate outside of the Kōhanga Reo organization. A Māori language nest in a large city in New Zealand kindly welcomed me, allowing me to visit with them to learn about their language nest, about how language nests operate in New Zealand, and about the Māori language situation in general. The language nest is presented anonymously here by the request of the school principal, as they openly shared information, e.g. finances and budget. The *Kōhanga Reo* operates independently of the finances of the *Kura*. However, the personnel of the *kōhanga reo* expressed appreciation to the *kura* and its director for their role in supporting the establishment of the language nest.

There are Māori immersion schools, referred to as *kura* ('school'), or sometimes *kura kaupapa*. *Kaupapa Māori* is defined as "Māori ideology – a philosophical doctrine, incorporating the knowledge, skills, attitudes, and values of Māori society" (Moorfield 2011:65). There are also bilingual schools in New Zealand. According to some of the *kaupapa Māori*, the bilingual schools are purported to be 50% in English and 50% in Māori, but the teachers and principal estimated that

the reality is that most of the bilingual schools are about 80% in English and about 20% in Māori, and that the children do not come out of the bilingual schools speaking Māori as fluently. This is based on their interactions with the bilingual schools. The *kura kaupapa Māori*, however, aim to be strictly 100% Māori immersion.

10.2 Review of literature

Te Rito (2008) discusses Māori language revitalization efforts. These began in 1972, with a Te Reo Māori petition sent to Parliament, and signed by more than 30,000 people (Te Rito 2008:1). He also discusses the development of Māori Language Day, Māori Language Week, Māori television broadcasts, the increasing number of speakers, the increasing support for Māori language among New Zealanders generally, and concerns over the language quality in the media.

In 2004, Cooper, Arago-Kemp, Wylie, and Hodgen published an extensive longitudinal study of *kōhanga reo* and *kura kaupapa* (schools that teach Māori language, culture, values, and philosophy), over 200 pages long. The parts of the report relevant to this dissertation include parents' Māori language background, teachers' perceptions of children's Māori language abilities, when children speak English, and children's perception of their experiences in the *kōhanga* and in the *kura kaupapa Māori*. The report also included other topics, e.g. students' curiosity, perseverance, social skills, etc., and the report discussed older children in the schools.

In their study of 9 *kōhanga reo*, 12.8% of parents were native speakers of Māori; 14.5% were fluent second language speakers; 34.2% were currently learning Māori, and 38.8 % did not speak Māori (Cooper, Arago-Kemp, Wylie, & Hodgen 2004:37). In some of the *kōhanga,* children spoke Māori all of the time. In three of the nine *kōhanga*, the situation in which children would switch to English was on the playground if they did not know a word in Māori, if they felt frustrated,

or if they were speaking to someone who did not know Māori (Cooper, Arago-Kemp, Wylie, & Hodgen 2004:xxii). During the case study for this dissertation, children were observed playing and even arguing in Māori. The emotionally charged conversations in Māori seemed to signify strong vitality of the language, as that was the language children in the *kōhanga* used even when they were upset (except for one child who was new to the language nest).

10.3 Background

The language nest that participated had 20 children enrolled during the holiday. It was licensed to have up to 25 children. Because some children get sick and some parents do not bring their children every day, there are typically at least 18 children in attendance every day. After kura ('school') restarted for the year, the *kōhanga* (language nest) enrollment went up to 25, where it has stayed ever since.

The age range they accepted into the language nest was typically 8 or 9 months to five years old. However, at this year (2017) they had an exception and had a 5-month old baby. Two of the 20 children would be turning five years old and would be graduating from the language nest. The other 18 were four years old and younger. Last year, about 8 children went on to attend a Māori immersion school. One family that had a child attending in the previous year moved away. Three new families started. All of the others re-enrolled in the language nest. The language nest has formal picture language assessments for children from the Ministry of Education. Teachers will use the assessments occasionally to see how children are doing. Their assessments include cultural significant vocabulary, e.g. *waka* ('canoe').

Typically, 100% of the children who graduate from the language nest go on to the Māori language immersion school nearby. The principal of the campus—both the immersion school and the language nest—requires parents to commit to continue their children on through the immersion school in order to join the language nest, otherwise the language efforts put into their children in the language nest would be considered wasted if they went on to an English-speaking school and were to forget everything they had learned. If a parent has one of the older children in an English school and they want to put a younger child in the language nest, the principal strongly recommends that they switch the older child to the Māori language school. Again, having the whole family "on board the *waka*" ('canoe'), as they say, makes the efforts in the language nest much more effective.[25] This way children can practice the language with their siblings, and it shows the parents' total commitment.

The focus is not just about language revitalization. It is about a way of life. The language nest and the school are also committed to *kaupapa*. Children learn about the traditional Māori deity and sacred history. They also learn *karakia* (chants or prayers) and songs. Children are also encouraged to spend time outdoors. The grounds on which the language nest is located has animals and fruit trees. They allow children to pick fruit from the trees and feed the animals, to be more connected to nature. Once a month the language nest teachers also meet with the *whanau*, the families of the children.

There are several factors that have contributed to the success of the language nest and to the success of children's Māori language fluency. Some of the factors of success that the head teacher mentioned included (1) whether or not children speak Māori in the *kāinga* ('home'); and

[25] The *waka* is used as a metaphor, as language learning is viewed as a journey (King 2007).

(2) if the children attend every day. Interestingly, both of these factors correlate to the amount of Māori language input a child receives.

One of the challenges the director of the language nest faced was finding qualified staff who both spoke the language and who were committed to and wanted to work with *tamariki* ('children'). Formal training takes three years. Then the *Kōhanga Reo* had its own certification process that took another year. The teacher training includes language training, pedagogy, creating teaching materials, learning all the *karakia* (chants/prayers), colors, vocabulary, etc. In addition, each teacher is also required to learn his or her own *whakapapa* ('genealogy'). It's also possible to do training while on the job. However, the training is very time-consuming and requires a lot of commitment. Some of the resources teachers created in the training included handmade books in *te reo* ('the language), with textured surfaces for toddlers to touch, and explanations in Māori with the different adjectives for the different textures. Finding reliable staff who would be willing to go through all of that training, who speak Māori fluently, who actually want to be there and who want to work with children was the greatest challenge expressed.

They desire their children to get an education. Today people can go from daycare through to earning a doctorate all in the Māori language. There is currently a lot of media in Māori: Māori television, Māori news, and movies in Māori. Māori speakers can get jobs on Māori television, as lawyers, as teachers, and as writers and translators. There will always be work for them if they can speak Māori. This addresses one of the common concerns of other endangered language communities—the economic advantage to their children of being able to speak the native language. In New Zealand, speaking Māori can be an economic advantage, securing employment opportunities for the person.

The language nest director had insightful advice for other communities who might want to start a language nest. She strongly suggested creating and administering a questionnaire *before* starting the language nest. She recommended sending it out into the community to see how many people would be supportive of a language nest, and how many families would actually send their children to it. She noted that community and family support is essential to the success of a language nest, and it is best to know how the community will respond before establishing it, to know if it is even desired or in demand.

10.4 Methods

Due to the high fluency of language nest teachers and children, the Māori resources available in English, and the time available for me at the language nest, and due to the fact that it was the last of the case studies I undertook, meaning that the picture-task activity had evolved into a much faster, streamlined, fluid process through experience, I was able to look at more linguistic features at the Māori language nest than in some of the earlier studies. In the comprehension portion, I did include the same basic vocabulary and transitive sentences. In addition, two more basic transitive sentences were added, two sentences testing negation, and three sentences that targeted the distinctions between singular, dual, and plural pronouns. This distinction between dual and plural does not exist in English pronouns, so I wanted to test whether children were acquiring it.

c. E noho ana ia
PP sit PP 3sg
'The child is sitting.'[26]

[26] "*E*" is "Used with verbs and *ana* to show action in progress" (Moorefield 2011:16)

d. E noho ana ratou
PP sit PP 3pl
'The children are sitting' (plural)

e. E noho ana raua
PP sit PP 3dual
'The children are sitting.' (dual)

For the prompts testing negation, the children were shown two opposite pictures (e.g. a boy smiling and the same boy frowning). They were asked to point to the picture in which "The boy is not sad." If they pointed to the picture in which the boy was smiling, that was marked as correct. If they pointed to the picture in which the boy was frowning, that was marking incorrect.

f. kāhore te tama i tē pouri
Neg Def boy Neg sad
'The boy is not sad.'

The second negation prompt was to point to the picture in which "The girl is not sitting." They were shown two pictures—one of a girl sitting, and one of a girl standing.

g. kāhore te kotiro i tē noho
Neg Def girl Neg sit
'The girl is not sitting.'

10.5 Results and analysis

The language nest visit occurred between holidays, before the official school year began. Due to the timing, fewer children were present in the language nest. However, this also made the activity more feasible as there are limited teachers to care for all of the other children while one of the teachers proctors the activity. Section 10.4.1 contains the results of the comprehension activity. Section 10.4.2 contains the results of the production activity.

10.5.1 Comprehension

Table 10.1. Māori comprehension results

	Child 1	Child 2	Child 3	Child 4	Child 5	Child 6	Child 7
Vocabulary correct	39/43	41/43	43/43	25/43	39/43	38/43	27/43
sg/dual/pl	2/3	3/3	2/3	2/3	1/3	0/3	1/3
Transitive sentences	4/4	3/4	3/4	¾	1/4	3/4	1/4
Negation	2/2	2/2	2/2	0/2	2/2	1/2	0/2
Total:	47/52	49/52	50/52	28/52	43/52	41/52	29/52

Perhaps of most interest were responses to the pictures testing distinction between third person singular, dual, and plural pronouns. Child 1, 5, 6, and 7 all missed the dual pronoun (when it was paired with a picture of three children sitting). Child 2, 3, and 4 pointed to the correct picture for the dual pronoun. Child 3, 4, 5, and 6 missed the third person plural pronoun. Six out of seven children correctly recognized the third person singular. When comparing the different morphosyntactic features (third person pronoun singular/dual/plural distinction), transitive sentences, and negation, each child seemed to have different features they understood better. There

did not seem to be any one feature that none of the children understood. This seems to imply that they are getting input for all of these features, and that each child is acquiring features that stand out to them individually.

Five out of seven children responded to the transitive sentences correctly at a rate higher than chance. Four out of seven children responded correctly to the negation prompts at a rate higher than chance, and four out of seven children responded to the singular/dual/plural questions correctly at a rate higher than chance would predict.

Child 4 was new to the language nest. It was his first week there. He had attended a different language nest previously, but had just moved to the area. The teachers were also struggling with his behavior. He spoke in English most of the time. The other children spoke in Māori most of the time.

10.5.2 Production

Five of the children who participated in the comprehension activity also participated in the production activity. Child 1 and Child 4 did not want to do the production part of the activity. Child 5 was enthusiastic about the activities and asked to be next. She seemed confident and that she wanted to show how much language she knew. Child 6 and 7 were younger, and it was requested that their picture tasks be done without the numerals. Child 2, 3, and 5 did the complete production task, including with numerals. Child 2, and 3 had very strong comprehension and production.

Table 10.2. Māori production results

	Child 2	Child 3	Child 5
Vocabulary correct	33/37	35/37	28/37

At first glance, Child 5 appeared to have strong comprehension and surprisingly weaker production, but when the numerals were removed from her results, she had high production results on the non-numeral vocabulary.

Table 10.3. Māori production results, without numerals

	Child 2	Child 3	Child 5	Child 6	Child 7
Vocabulary correct	25/27	26/27	23/27	23/27	13/27

Four out of the five children produced 85% or more of the vocabulary correctly. Of the only two children who struggled with the comprehension section, one (Child 4) in English expressed that he did not want to do the production activity. Although 4 years old, he was the child who had just started at that particular language nest a few days before. It seems that not all language nests have the same amount of language input, as he had previously attended a different language nest. Child 7 was still able to correctly produce almost half of the vocabulary on her own. Her comprehension results were 29/52, about 56%. A look at only her comprehension results might mislead one to think she had less Māori language knowledge than she actually did, as it could have been assumed that about half of the correct responses on the comprehension portion were mere guesses as there was a 50% chance of pointing at the correct picture. However, she was able to correctly produce more than half of the non-numeral vocabulary during the production activity. This implies that her results on the comprehension test were more a result of her actual knowledge than mere guesses.

10.6 Conclusion

The Māori language nest that participated is concerned with the children's overall well-being, health, *kaupapa Māori*, and has a strong language component. Most of the children are acquiring the language.

There are some Māori children who are learning Māori as a first language in their homes. It would be ideal to get acquisition data from children who are learning Māori as their L1 to see what is the natural order and age of acquisition of various features of the language. It would be desirable to have that data to serve as a baseline for acquisition data from immersion programs.

One of the reasons that a greater number of the children had difficulty with the dual than with the singular or plural pronoun may have to do with how infrequently the need to talk about duals forms arises. This is true for dual morphology on nouns. In everyday life, objects more often occur in singles or in plurals greater than two. Although some things occur in dual (e.g. eyes, arms, etc.), it is not as often that only two of an object occur as opposed to three or more. This has been used to explain the typological infrequency of languages that have a dual form in comparison to languages that only have a singular and plural distinction (William O'Grady, p.c. 2017). The same principle would apply for people and pronouns. It is more common for a person to talk about one person (using the third person singular pronoun) or several people (using the third person plural pronoun) than to talk about only two people. The children have likely heard the dual form. Because daily life situations do not typically necessitate the third person dual form, they may not have heard that form as frequently as other forms, so it is likely acquired later. The forms which they have heard with the greatest frequency are likely acquired earlier. If we were to do the picture task with eight year olds who have had more time in the language, it

would be expected that they would have heard the dual pronoun come up a greater number of times, and they would have acquired it.

In addition, typological frequency also seems to correlate to language change. It seems that according to Shibatani (2015),

> It has been shown that the category of dual is only found in a system having a singular–plural distinction – no language has a singular–dual system or a plural–dual system. When a language with no number distinction develops a number system, it involves a singular–plural distinction; no language develops a system with a tripartite singular–dual–plural distinction without going through a stage in which a singular–plural distinction has been established. (Shibatani 2015:211)

Although there are other factors, frequency of input and acquisition are included among factors influencing language change. In order to secure the maintenance of typologically rarer features (e.g. singular-dual-plural distinctions) that are typologically rarer due to rare occurrences in the physical world, the naturally less frequent input would need to be supplemented by deliberately created situations for language use and input.

Chapter 11

Conclusion

11.1 Introduction

This chapter reviews the findings of this dissertation, with also a synthesis of the two parts of the dissertation: Part 1 on the language nest interviews and Part 2 on the acquisition research at language nests. Part 1 and Part 2 each resulted in their own findings as well as in conclusions that corroborate the findings of the other section. The main goals of this dissertation are to learn about that state of language nests in the world today, what the different options are for how to establish, run, and fund a language nest in various parts of the world under different circumstances, and to learn from language nests what factors are helpful and what elements are less helpful in trying to create a new generation of speakers. These questions were investigated by interviews with language nest teachers and directors worldwide and by conducting picture task acquisition assessment case studies at four language nests in different contexts.

11.2 The findings of Part 1

There were several recurring themes in Part 1. While there were unique responses to the interview questions, which are presented in Chapter 4, the general recurring themes are reported here. The responses that seemed to reoccur frequently concerned: (1) factors relating to success of the language nest; (2) challenges; and (3) the cost of running a language nest. In addition, a

rough estimate for the number of language nests in the world was developed. In New Zealand there are currently approximately 200 *kōhanga reo*. There are also Māori language nests outside of the *kōhanga reo* organization. There are 13 language nests in Hawai‘i and 11 in Finland. British Columbia has at least 12 languages nests which are funded by the FPCC, and perhaps a few others which are not funded by the FPCC. There are several language nests in the U.S., Norway, and Russia. Those language nests in Mexico, Japan, and Taiwan that were known are not currently operating. There are likely several others of which we have not heard. My estimate is that there are approximately 300-350 language nests in the world, in the sense of a language immersion daycare/preschool for an endangered indigenous language with the intent of revitalizing the language, with children up to 4 years old (who "graduate" when they turn 5 years old). If the definition is broadened to mean any daycare that happens to be in an indigenous endangered language without overt intent to revitalize the language, then the number would likely be much higher. For example, there may be informal daycares (e.g. a neighborhood home where someone watches children from a few families) where the primary language of communication happens to be an indigenous language that has some level of endangerment, but the term or concept of a "language nest" is unknown to the caregivers, and language transmission is not thought of as a priority. This may exist in Asia, Central or South America, Africa, or Australia—geographic regions not directly visited in this study and where less is known about the language nest situation.

The primary factor affecting success that recurred in language nest interviews was parent/family involvement. A commonly repeated opinion was that parent/family commitment to a language nest could make or break its success. When parents were committed to the language and culture and were involved in cleaning the language nest, creating products for fundraisers

(e.g. pies, quilts), participating in activities, and studying the language, the language nest was more likely to able to be sustained long term. Family commitment was also listed by some language nests as one of the greatest challenges—when that commitment was lacking.

While the cost of running a language nest varied, a number that came up repeatedly was approximately $100,000 USD annually. This was for what was considered the bare minimum structure of a language nest. Interestingly, some language nests that listed a higher cost did not necessarily correlate to an area with a higher cost of living. Some languages had started out with grassroots nests—a speaker would talk to children in someone's home. However, in order to increase the number of children who could be exposed to the language, growth was required. Having more children participate also necessitated larger spaces and more caregivers and language speakers. In addition, it takes so much work to care for young children (feeding, cleaning up, taking them to the bathroom, cleaning up accidents, dealing with crying and fights, messes, bids for attention, etc.), that it becomes more sustainable when the nest can be funded. The variation was based on salaries of language nest workers. The primary expenses are salaries for the teachers and staff (although some language nests did not have additional staff), rent for the space (or the cost of building a structure), utilities, food for the children, and resources (games, activities, toys, media). There are also additional expenses for things that need to be replaced periodically, e.g. dish soap, tissues, etc. If funding is limited, having the families take turns cleaning the language nest can help. If enough funding is available, someone to clean daily also needs to be factored into the budget. Because it is a center for small children, this is not ordinary office cleaning. Based on first-hand observation in the language nests, as with any daycare or family at home with toddlers for that matter, with two to four year-olds, there will be

food all over, toys and crayons, and other messes and some children have only recently been potty-trained. This leads to recurring challenges that surfaced in language nest interviews.

All of these real-life non-linguistic factors take time, energy, money, human resources, and material resources to deal with. These are things some of those interviewed said they had not foreseen when initially having the idea to create a language nest. One person expressed that they had initially thought, "We'll have all these kids come, we'll speak to them in the language, and that will be it. It will be so simple." After experiencing the reality of running the language nest, there have been so many other issues and difficulties they had not foreseen—for example, even the size of the space, whether or not the tables and chairs fit there, having to store the tables and chairs away every day because of other activities that occur in the space during the hours in which the language nest is not running, etc.

Other significant advice included:

- Really take time to plan it out and think things through before you jump into it.
- Do a questionnaire in the community to determine whether or not people are interested in it and will be supportive. It will also help build awareness that the language nest is there.

There were also recommendations that differed depending on geographic location and political environment of the language nest. For example, in New Zealand a Māori language immersion program director recommending building a language nest on your own land if possible, and to have your own structure. She said that this way you would not have to pay rent and you could do whatever you wanted to on the land. Some suggested getting private funding and not funding

from the government so that you would be more free to do whatever you wanted with the language nest and not have to follow governmental impositions of curriculum (New Zealand). However, some of the language nests in the U.S. said that without government funding they would not be able to operate.

As just seen, recommendations from experienced language nests ranged from being on your own property and getting funding from non-governmental sources if possible (in New Zealand) so as to have more freedom with regard to activities and curriculum. The Mohawk language nest also commented on the freedom they have (even being part of the Ahkwesahsne "Freedom School") from being on the reservation, as they are not bound by governmental restrictions. In other countries (e.g. Finland and Canada) governmental requirements for language nests did not surface as a problem.

One other pattern found in the interviews was that many of the language nest directors or teachers mentioned having visited another language nest in person before starting their own. Many language nest directors said that it had a significant impact on them to see children immersed in another endangered indigenous language and hearing teachers their age and young children alike speaking their language. Several people said that the on-site language nest visit was the tipping point that helped them to decide to start a nest themselves. More than one person expressed that before seeing it for themselves, a functioning language nest was more difficult to believe in. After seeing someone else accomplishing it, they knew it was possible, and they became more confident and able to move forward to create their own.

Figure 11.1 illustrates the language nest influence network. While there may be other language nests that have been influenced by and influenced other programs, only the language nests interviewed in this research project that mentioned having visited or consulted with other

specific language nests are included in the diagram. The direction of the arrows represents the direction of influence—where ideas from one language nest inspired another language nest. The degree of influence varies case by case.

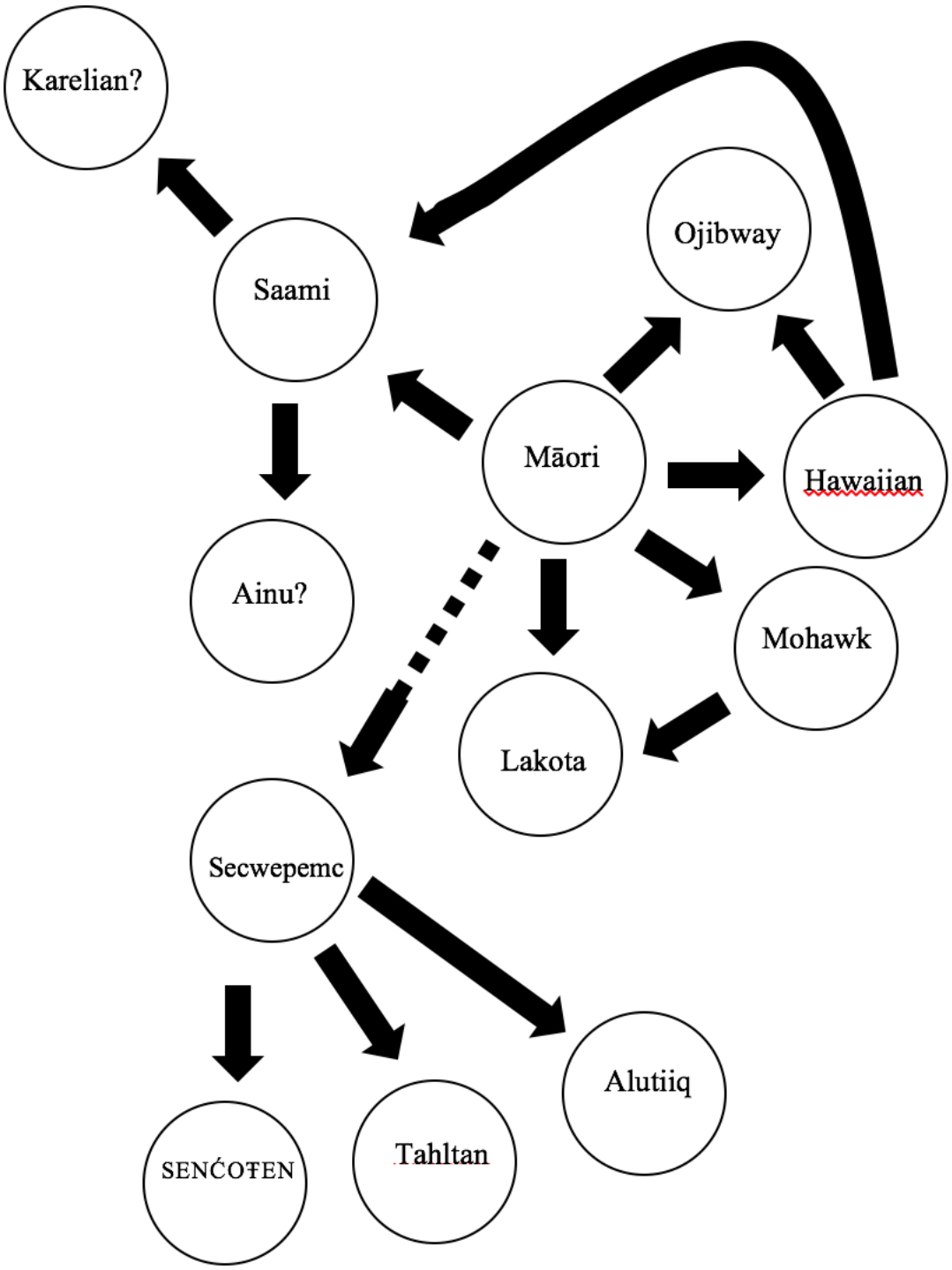


Figure 11.1. Network of influences between language nests

Karelian and Ainu have question marks next to them, only because people from those language communities were not consulted directly in the scope of this study. The Saami language programs mentioned Karelian speakers had come to Sajos and had collaborated on language revitalization efforts. Karelian language nests were established in Tuuksi (Tuksa) and in Petroskoi (Petrozavodsk), Russia (Campbell, Hauk, & Hallamaa 2015:29).

Personnel at Sajos, the Saami Parliament, mentioned that people from the Ainu community in Japan had also visited to learn from their programs. They said that people from the Ainu community were interested in starting a language nest and wanted to learn from the Saami language nests. It was unclear whether or not Ainu language nests have been established. With the information available at this point it appears that an Ainu language nest is not yet in existence, although there may be individuals planning to develop one eventually.

There is a dotted line between the Māori language nest system and the FPCC, as there is an indirect influence in that Māori language nests were the original immersion daycares for language revitalization. Even the term "language nest" in English is a calque from *kōhanga reo* in Māori. SENĆOŦEN and Tahltan language nests obtain funding and do training with the FPCC. The Alutiiq language nest, although not in British Columbia, uses the FPCC Language Nest Handbook as a guideline.

11.3 The findings of Part 2

The findings from the acquisition picture task activities are reviewed here. In typical acquisition studies, greater numbers of participants and greater numbers of assessment items are ideal. While it would be preferable to use these same methods in an endangered language setting,

and while some methods are transferrable, the situations in the language nests were unique. This dissertation was not intended to be an acquisition study. Rather, it was intended to be a survey across language nest programs. In addition, some requested an acquisition element. This dissertation addresses acquisition as a topic in relation to language nests, and how acquisition studies at a language nest would fit into some of the extant literature. However, due to constraints of time, funding, young children's attention spans, and other factors, the acquisition pilot studies involved fewer-than-ideal numbers of tokens and children. As it was, children responded to up to 89 Powerpoint slides—52 comprehension tasks and 37 production items. Although the activity typically only took approximately 10 minutes or less (a maximum of 15 minutes), near the end of the activity, some children appeared to have reached the limit of their attention-span. In the future, it may be best for each researcher to focus on one language nest at a time, and to be able to visit for a few weeks. By extending the research period, assessments could be broken up into shorter amounts of time for each child, e.g. comprehension tasks on one day, and production tasks on another day.

The pilot studies were conducted at four language nests: Hawaiian, Mohawk, Inari Saami, and Māori. Across all four language nests, children were able both to understand and produce vocabulary in their respective target languages. Unsurprisingly, children comprehended more than they could produce. In the Mohawk language nest children were observed to understand phrases beyond the scope of the picture task activity, e.g. when a teacher or elder instructed them in Mohawk to get down from somewhere where they were climbing, or to drink their water or eat their food. The language exposure in the nest provided children with a head start when entering the Mohawk immersion school.

In the Hawaiian and Māori language nests, children were observed to interact with each other in the language most of the time, even when playing together or disagreeing with each other on their own during unstructured play time. At times children also interjected volunteered vocabulary during the comprehension activity, even adding adjectives to describe the picture.

In the Inari Saami language nest, children would interject in between prompts during the picture task as well, some even telling entire stories that the image triggered in their memory.

Although from a purely language acquisition perspective it would be ideal to have teachers who are fluent native speakers, second-language fluent speakers can also teach the language where native fluent speakers are not available to teach in the nest. Some programs have fluent speakers available to teach and some do not. Even when fluent teachers are not available, teachers who are semi-speakers or are partially fluent can still contribute to children's language acquisition to a degree. If there are no fluent speakers available at all, whatever vocabulary and grammar a language-learner can acquire and use with children, the children may be able to learn those parts of the language.

11.4 Synthesis

While fluency of teachers is one factor that contributes to children's language acquisition, other contributing factors were hours of operation, hours of language immersion, and language support in the home.

The length of time a language nest is open also seems to be a key factor. All four of the language nests that participated in the acquisition activity were open five days a week, for at least seven hours a day. Language nests that reported in interviews that children were understanding the language but having difficulty producing, i.e. speaking it, correlated with

language nests that operate fewer days per week, and/or fewer hours each day it was open. This is not to say that a language nest that can be open two or three days a week is not valuable. It definitely does still have value—both for perpetuating the culture and even for a degree of language input.

An additional observation was made based on data in table 4.1. Although not all the data for all the language nests was available, based on the data available, for those languages nests which met for more hours per week also reported higher percentages of target language use when children spoke to other children in the nest. Those language nests also reported higher percentages of children speaking to each other in the language when there were higher percentages of children who had language support outside of the nest (e.g., ranging from grandparents or parents who speak the language to parents who are studying the language). This is consistent with the findings from the longitudinal study of *Kōhanga reo*, in which two factors teachers mentioned as correlating to children's language proficiency were whether or not the child had Māori language in their home, and the number of hours the child attend the language nest (Cooper, Arago-Kemp, Wylie, & Hodgen 2004). Those who attended for a greater number of hours and who had the language in the home spoke the language more. Interestingly, both of these factors relate to amounts of language input. Even if language nest teachers spoke in the language 100% of the time, if children were not present in the language nest, or if they had no other language support outside of the language nest, children were less likely to speak it. Having the language nest hours open longer helped, but what really mattered was how much the child was present. Teachers also commented on the affect it had on children's language when parents brought the child to the language nest only sometimes and were primarily interested in the

language nest as a convenient daycare, as opposed to parents who were committed to language learning and who brought their children to the language nest nearly every day it was open.

11.5 Possible applications

The results of the interviews and acquisition investigations have possible applications to (recommendations for) current language nests or to those who are considering starting a language nest. Some of these implications are for ideal situations in which fluent speakers and adequate resources would be available. This may not be realistic for some communities. There are also applications/recommendations for those situations in which fluent speakers are scarce, or for communities that are revitalizing an awakening language for which documentation may be scarce.

11.5.1 Speakers

In an ideal situation with fluent speakers available to work in a language nest, it would be optimal for children's language input for them to be exposed to at least two native speakers who can talk to each other in the language in front of the children, and who can talk to the children together. Of course, this is not always possible for all language communities. Many language nests cited as a significant challenge lack of native or fluent speakers who live near enough or who are healthy enough or who have the willingness or ability to work with active young children.

The California style Master-Apprentice programs have been useful in many communities to create fluent speakers who can then teach children in language nests. Several of the language nests provided a way for parents to study the language, so that they would be able to speak with

children in the language at home. However, there is only so much a language nest can do to encourage parents to support their child's language development. Some language nests have made it mandatory for parents to take part in language learning in order for their children to enroll. Other language nests are in communities that do not have as much enthusiasm about the language nest, and if they were to create those requirements, the few families who bring their children to the language nest would just quit. It depends on each language nest's situation, as well as how much demand there is for both child care and language revitalization in the area.

11.5.2 Hours of immersion

The ideal number of days or hours the language nest is open—and how many of those hours are immersion in the language, as well as how much talking in the language actually occurs—depends on the goals of the particular language nest. There is no one right answer or a single best practice to fit all the different possible language situations, needs, and contexts. If the goal of a language nest is for children to speak the language fluently by the time they graduate from the language nest, this is more likely to happen if children are in the language nest for the full day (e.g. 9:00 am to 2:30 or 3:30 pm, whether that full day is five, six or seven hours) for five days a week. The language nests with the children who speak the language most fluently have this type of consistent schedule. These findings are consistent with previous studies in the literature that children must have at least 20% of their total language input in a particular language in order to feel confident enough to speak in it (Pearson, Fernández, Lewedeg, & Oller 1997). Bear in mind that 20% is the minimum. The greater quantity (amount of time they are immersed in the language, and the amount of speech in that time) and quality (variety of speech) they hear in a language, the greater likelihood they will speak in the language at all, and the more

fluent they will be when they do speak. Quantity in terms of hours of the day in which only the target language is used may not necessarily equate to quantity and quality of language input. The greater number and variety of words and sentences spoken in the language each hour, the greater the quantity and the quality of the input. This is one reason why reading to children in the target language is so significant. Even if a teacher or assistant is not a fluent speaker of the language, if they learn how to read in the language, they can read simple books to children. When one does not know what to say in a language, reading books aloud to children can increase the quantity of input. In addition, books may sometimes use vocabulary and/or grammatical structures that are outside of a speaker's habituated speech patterns, further enriching the child's language input.

If they receive less than 20% of their total input in the language (i.e. most of the time they hear one language, and for only a couple of hours a week or even per day they hear the target language), they may learn to understand it, but they will probably not produce fluent speech if they produce any speech at all in the language. In other words, being in a language nest two hours a day two days a week can definitely help the child learn to understand the language when they hear it; it is less likely to result in children speaking the language. However, if the available funding and human resources allow the language nest to be open only two hours a day for two days a week, there is still a great amount of good that can come of that. Children can be exposed to the language and learn to understand it and recognize the sounds of it. This could help prepare them for entering a language immersion program, where they would be able to speak later. Some of the language nests interviewed experienced this—children understood quite a bit and did not speak much in the language nest, but when they advanced to the immersion school they had a head start and were able to pick up the grammar or other aspects of the language much more quickly than children who had not attended a language nest prior to entering the school.

The objectives of a language nest can adjust to the available resources; likewise, the structure of the language nest can be customized to its particular objectives.

If a language nest's goal is to produce fluent-speaking children, one way to supplement the input the child gets in the language nest is for families to use that language at home as much as possible. In actuality, the language nest is meant to supplement the language. Ideally, the language would be used in the home. Parents can also take language classes or at least learn a basic words and phrases from language nest teachers, so that they can use these with their child at home. In addition, this would help them to understand phrases in the language that their children might say at home. If parents themselves do not know the language, do not have the time, or do not have the confidence that they could learn it, they can put siblings of children in the language nest in age-appropriate language immersion program. This way children can use the language with each other in the home.

11.5.3 When fluent speakers or information on the language are scarce

If the language nest is in a situation in which fluent speaking teachers are difficult to come by, or information on the language is limited, there are still options. If fluent native speaking teachers are not available, there are several options, three of which are discussed here.

While this dissertation deals more with the language nest interviews, in the realm of language acquisition, the question of how fluency in adults can be assessed is a crucial matter. Both acquisition and pedagogy are relevant not only for the children, but for the adult speakers. Some language nests have training programs for their teachers, so that they can learn the language as they are assisting a more fluent speaker in the language nest. This on-the-job-training allows them to learn through immersion, in a manner similar to the children.

One option is to maintain producing fluent children speakers as a goal of the language nest while increasing language abilities of teachers. The language nest could compensate teachers for the time they study the language outside of work hours. Teachers can enhance language abilities with the help of more fluent-speaking elders outside of the language nest, even if those fluent speakers would not want to or be able to work with small children in the language nest directly. In cases where no fluent speaker elders are available to mentor teachers with language learning, teachers can use archives, recordings, and consult with a knowledgeable linguist.

If limited resources permit a language nest to be open only for fewer hours and on fewer days, or fluent speakers are not available, another option would be to adjust the language nest goals initially to match the available resources. For example, instead of the objective being to produce fluent speaking children in the first year if the language nest can only operate for a couple days each week, the goal for that year can be to expose children to as much language input as possible, so that they will be better prepared to enter an immersion school. Focus can be on exposure and comprehension initially, if production feels like too much of a leap. This is not to say that fluency will never be attained. Over time, the goals can be revisited and adjusted and helping children to become fluent speakers can become a realistic goal with progress over time. Repetition was frequently used across several language nests—songs, chants, and conversations each day about the weather, or other topics unique to the culture (e.g. traditions, genealogies, etc.). Another goal in the beginning can be to focus on having one hour completely immersed in the language. As time goes on, that goal can be expanded to two hours, and so forth, until an entire day can be done in only the language.

The mode amount cited to run a language nest was approximately $100,000 USD, with some language nests requiring more, and some able to do it with less. Larry Kimura (p.c. 2017) commented that the Hawaiian language nests were able to start without money informally at a grassroots level.[27] All it required in the beginning was a dedicated group of individuals to start gathering their young children and speaking to them in the language in someone's home. This may be encouraging for those who do not yet have access to large amounts of funding. When the numbers of children grew, funding eventually became necessary to be able to accommodate the demand. On the other end of the spectrum, one anonymous language nest on the higher end of expenses and income generously shared their itemized annual budget. This can be viewed in Appendix D: Sample Language Nest Budget.

There are also options for people who would like to awaken their language, even when there are no fluent speakers and if there is little documentation or knowledge of the language available. One option is to use whatever vocabulary words and/or grammatical structures are known of the language, and use them wherever possible when speaking in whatever language they already speak. For example, while speaking English, using the native words and phrases in the middle of English sentences wherever possible. This could be extended even further, depending on how much of the language has been recorded. If certain grammatical structures are known, these can be used to invent new words where knowledge of vocabulary is missing, or these grammatical processes can be used on English (or whatever contact language) vocabulary.

[27] Larry Kimura emphasized that he was not prescribing how anyone should do anything. He just suggest as an opinion that not having money in the beginning need not be a roadblock. It has been observed that language nest work is so challenging that even those who stay in the challenging enterprise of language nest work are passionate about it.

This can create a sort of mixed language or a creole that can still be owned in a culturally meaningful way, a symbol for regaining pride in their heritage.

Yet another option might be to "Jurassic-Park" a language to awaken it. "Jurassic Park" is a term I coin here to refer to language creation from some remnants. In the Jurassic Park movies, some DNA was available for certain species of dinosaurs. There were also parts of the DNA code that were missing. In this fictitious story, scientists "fill in" the missing segments of DNA using strings of DNA from other reptiles to create a living dinosaur with as much dinosaur DNA as was available. This could be done by gathering as much information on one's language as possible. To fill in the missing gaps, one can then look to the most closely related living (or more documented) language or languages and use structures and vocabulary from those languages to reconstruct one's own, if one's language is not an isolate. Holton (2009) has published on using this creolization method in revitalizing Athabaskan languages.

In awakening the Wampanoag (Wôpanâak) language, "careful study of the available texts" was combined with "cross-linguistic comparison within the Algonquian [language] family" to reconstruct phonology, grammar, and lexicon.[28] In the reconstruction of the Miami-Illinois phonology, data was compared with cognates from "closely related sister languages," such as the neighboring Central Algonquian languages "Meskwaki, Ojibway, Shawnee, and Kickapoo" (Baldwin, Costa, & Troy 2016:398).[29]

[28] http://web.mit.edu/norvin/www/wopanaak.html
[29] https://scholarspace.manoa.hawaii.edu/bitstream/handle/10125/24713/baldwin.pdf

11.6 New questions and future research

Many aspects about language nests in the current literature remain to be addressed but are beyond the scope of this dissertation. One such topic would be to investigate the amounts and kinds of input at language nests, and to see what, if any, correlations there are to comprehension and production. Another interesting study would be to undertake longitudinal studies of children in immersion schools who attended language nests and compare them with those who did not to see what affects there are.[30]

Another possible project that came to mind in the course of these investigations was to create constructed sentences strung together in a narrative format to create children's books. These sentences would incorporate not only important frequent features and vocabulary but also typologically rare structural features in the language and/or that tend to occur at a lower frequency in spoken conversation. By including them in stories, children could have more frequent exposure to these rarer forms when read to. For example, one could create a simple children's book incorporating various permutations of the typologically rare dual form, alongside singular and plural forms, in languages that have a contrastive dual, with illustrations and contexts to clarify the meanings. The unique case-markings on Inari Saami nouns modified by numerals would also be a good candidate for being represented in this type of children's book, where case markings change as, for example, the number of animals changes, and as animals change from being subjects to objects (e.g. "He saw seven reindeer. The seven reindeer were eating leaves."). Another good linguistic candidate for this type of book would be complex

[30] Mohawk language nest teachers were told by immersion school teachers that the children in the immersion school who had attended the language nest were stronger at Mohawk pronouns than those children had not attended the language nest—at least early in the immersion school. It is unclear whether consistent exposure over time in the immersion school would level that difference.

pronoun paradigms in endangered languages—e.g. Mohawk or Hawaiian. It would also be possible to portray the inclusive-exclusive first person dual and plural in this way. The simple story could then easily be translated into several endangered languages that have inclusive-exclusive distinctions in the first person plural pronouns. This would be relevant if a language speaking community would like to preserve certain unique aspects of the language that are more vulnerable to being lost due to infrequent occurrences and a lack of the distinction in dominant contact languages, or if those involved in language revitalization determine that it would be helpful to have targeted means of helping children to acquire otherwise difficult aspects of the language. However, it is important to note that these should be done guided by speaker community desires, and to not simply select structural features that linguists find interesting but that are not considered relevant to the speaker community.

Some linguists have also expressed interest in further acquisition assessments at language immersion programs that are not necessarily endangered languages (e.g. for French, Spanish, Korean, etc.) to see how acquisition works in these programs that have been around longer. However, it is also important to remember that each language and cultural situation is unique, and may require new approaches that are appropriate to each culture, while incorporating whatever aspects the community views as useful from other programs.

In addition, sociological studies could be done to learn about the positive social and psychological effects of attending a language nest, regardless of quantity or quality of linguistic input. Some such studies have been done on language revitalization in general, as well as language proficiency at the community level (Chandler & Lalonde 2008; Whalen, Moss, & Baldwin 2016). Teachers at several language nests expressed that it was not just about the language—it was a place for children to feel safe, loved, cared for, and to learn about culture and

their heritage, and to take pride in it. Several of the language nests also placed an emphasis on providing children with fresh fruits and vegetables and avoiding sugary processed foods. Even beyond the language function, nests may provide many positive social, psychological, and health benefits to children.

Many teachers and directors expressed that opening and running a language nest is a very challenging yet very rewarding endeavor to undertake. It is not just a job—it is a life choice motivated by deep commitment to the language and culture.

Appendix A

Language nest interview questions

1. **Contact information**
Name of language nest
contact person
address of language nest
city/town
state/province
zip/postal code
country
email address
phone number
website url

2. Main language(s) being revitalized/taught at the language nest:

3. All languages spoken at the language nest

4. When does the program run? (months, dates, hours)

5. Number of teachers at the language nest (number of different classes)

6. Typical number of children to adults in the room (teachers vs. assistants)

Language background of teachers

7. How many teachers are:
    Fluent native speakers of the language?
    Fluent speakers who learned it as a second language?
    Can have conversations in the language?
    Cannot have conversations in the language, but have a good understanding of the grammar/vocabulary?
    Are starting to learn the language?

8. How many children in total attend the language nest?

9. What age range does the language nest cater to?

10. How many children of each age?

11. How many children

Enrolled for the first time this year?
Re-enrolled this year?
"Graduated" last year (could not go any further in this program)?
Did not re-enroll this year although they are still of qualifying age?

12. What language is used most of the time in each type of activity at the language nest? (Ask for estimates of percent for each)

Teachers talking to other teachers:	,	%
By staff (assistants, etc.):	,	%
Teachers talking to children:	,	%
Children talking to teacher:	,	%
Children talking to each other (while at language nest):	,	%

13. How many children in the language nest have family members at home who speak the language to them?

14. If you feel comfortable sharing this information, how much does it cost to fund/run the language nest? If you are able to give a breakdown of expenses, that would also be helpful. (We can keep this information anonymous and just publish numbers not associated with any language nest in particular if you would like)

15. What are some of the things that have helped this language nest be successful?

16. What are the goals of this language nest?

17. What are some of the challenges your language nest has faced? (funding, resources, difficulty finding teachers, etc.; please feel free to include anything. Again, we can make this information anonymous and not associate it with a specific language nest if you would like).

18. a) What kinds of things are most of the children able to do in the language generally? (e.g. understand, sing, recite colors/greetings, follow instructions, ask questions, etc.)

b) Are there any areas of the language with which the children seem to be struggling? If so, what are they? (e.g. specific grammar patterns-- past tense, pronunciation, understanding, speaking)

19. What kind of follow up is available after children outgrow the language nest? (e.g. immersion school; community language classes, language in the home, none, etc.)

20. How many hours per day/week are the children at the language nest?

21. How many of those hours are the children completely in immersion in the revitalizing language? (no other language is being used).

22. What do you think would help the children learn the language even more? What would your ideal language nest look like?

23. Any other thoughts, ideas, questions, feelings you would like to express about the language nest and/or language revitalization in general?

24. What advice/tips would you give to a community who is thinking about starting a language nest?

Appendix B

Vocabulary and grammar comprehension items

	English	Hawaiian	Inari Saami	Māori	Mohawk
1	red	ʻulaʻula	rupsâd	whero	onekwenhatara
2	yellow	melemele	fiskâd	kowhai	otsinekwar
3	green	ʻōmaʻomaʻo	ruánáá	kākāriki	ohonte
4	blue	polū	čuovjâd	kikorangi	oron:ia
5	man	kāne	almai	tāne	rôn:kwe
6	girl	kaikamahine	nieidâ	kotiro	eksaʔa
7	woman	wahine	nissoon	wahine	iakôn:kwe
8	boy	keikikāne	pärni (kandâ)	tama	laksaʔa
9	flower	pua	kukká	hua	otsî:tsia
10	turtle	honu	??	honu	aʔnô:wara
11	house	hale	(bear) kuobžâ	whare	(bear) ohkwari
12	pig	puaʻa	(wolf) snöölhke	poaka	(wolf) okwaho
13	banana	maiʻa	?? (borrowing)	maika	teiotahia':kton
14	dog	--	peenuv	kuri	e:ha
15	rock	pōhaku	keđgi	kōhatu	onên:ia
16	fish	iʻa	kyeli	ika	ken'tsion
17	stomach	ʻōpū	cuávji	puku	onekwen:ta
18	head	poʻo	uáivi	mātenga	o non tsi
19	hand	lima	kietâ	ringa	ohtsiana
20	foot	wāwae	jyelgi	waewae	ohsi:ta
21	eye	maka	čalme	kanohi	ohkara
22	knee	kuli	iidâ	turi	okwitsha
23	ear	pepeiao	pelji	taringa	ohonhta
24	nose	ihu	njune	ihu	o'niónhsa
25	small	iki	uccâ	iti	kenʔniwâ:ʔa
26	sad	kaumaha	sorolâš	pouri	iotnikonraksen
27	big	nui	styeres	nui	kowâ:nen
28	happy	hauʻoli	ilolâš	pai	(unknown morpheme; 'you are happy')
29	2	ʻelua	tékeni	rua	kyehti
30	10	ʻumi	oié:ri	tekau	love
31	5	ʻelima	wisk	rima	vittâ
32	8	ʻewalu	sha'té:kon	waru	käävci
33	9	ʻeiwa	tióhton	iwa	oovce
34	3	ʻekolu	áhsen	toru	kulmâ
35	7	ʻehiku	tsá:ta	whitu	čiččâm
36	4	ʻeha	kaié:ri	wha	nelji
37	6	ʻeono	ià:ia'k	ono	kuttâ
38	1	ʻekahi	énska	tahi	ohtâ

39	eating	‘ai	purâdiđ	kai(nga)	tesatskahon
40	running	holoholo	kaččâđ	omaoma	tesarahtat
41	crying	uē, uwē	ciârruđ	tangi	tesasôntho
42	standing	kū	cuážžuđ	tū mārika	tastaʔ (tastat)
43	sitting	noho	čokkáđ	noho	sakien

Hawaiian

	English gloss	**Hawaiian prompt**	**target structure**
44	He/she is sitting.		singular
45	They (plural) are sitting.		plural
46	They (dual) are sitting.		dual
47	The dog is looking at the boy.		basic transitive sentence
48	The boy is looking at the dog.		basic transitive sentence
49	The boy is not sad.		negation
50	The girl is not sitting.		negation

Inari Saami

	English gloss	**Inari Saami prompt**	**target structure**
44	The dog is looking at the boy.	(interpreted live; could not get written version)	basic transitive sentence
45	The boy is looking at the dog.	(interpreted live; could not get written version)	basic transitive sentence
46	The boy is not sad.	(interpreted live; could not get written version)	negation
47	The girl is not sitting.	(interpreted live; could not get written version)	negation

Māori

	English gloss	**Māori prompt**	**target structure**
44	He/she is sitting.	e noho ana ia	singular
45	They (plural) are sitting.	e noho ana ratou	plural
46	They (dual) are sitting.	e noho ana raua	dual
47	The dog is looking at the boy.	kei te titiro te kuri ki te tama	basic transitive sentence
48	The boy is looking at the dog.	kei te titiro te tama ki te turi	basic transitive sentence
49	The boy is looking at the fish.	kei te titiro te tama ki te ika	basic transitive sentence
50	The fish is looking at the boy.	kei te titiro te ika ki te tama	basic transitive sentence
51	The boy is not sad.	kahore te tama i te pouri	negation
52	The girl is not sitting.	kahore te kotiro i te noho	negation

Mohawk

	English gloss	Mohawk prompt	target structure
44	The dog is looking at the boy.		basic transitive sentence
45	The boy is looking at the dog.		basic transitive sentence
46	The boy is not sad.		negation
47	The girl is not sitting.		negation

Appendix C

Vocabulary and grammar production items

	English	Hawaiian	Inari Saami	Māori	Mohawk
1	green	ʻōmaʻomaʻo	ruánáá	kākāriki	ohonte
2	blue	polū	čuovjâd	kikorangi	oron:ia
3	yellow	melemele	fiskâd	kowhai	otsinekwar
4	red	ʻulaʻula	rupsâd	whero kikorangi	onekwenhatara
5	flower	pua	kukká	putiputi (flowers)	otsî:tsia
6	1	ʻekahi	ohtâ	tahi	enska
7	4	ʻeha	nelji	whā	kaiê:ri
8	8	ʻewalu	käävci	waru	shaʔtê:kon
9	5	ʻelima	vittâ	rima	wîsk
10	3	ʻekolu	kulmâ	hua	âhsen
11	6	ʻeono	kuttâ	ono	ià:iaʔk
12	10	ʻumi	love	tekau	oiê:ri
13	7	ʻehiku	čiččâm	whitu	tsiâ:ta
14	2	ʻelua	kyehti	rua	têkeni
15	9	ʻeiwa	oovce	iwa	kiôhton
16	girl	kaikamahine	nieidâ	kotiro	eksaʔa
17	banana	maiʻa	?? (borrowing)	maika	-- (‘fruit that is bent’)
18	fish	iʻa	kyeli	ika	ken'tsion
19	turtle	honu	??	honu	aʔnô:wara
20	house	hale	(bear) kuobžâ	whare	(bear) ohkwari
21	pig	puaʻa	(wolf) snöölhke	poaka	(wolf) okwaho
22	hand	lima	kietâ	ringa	ohtsiana
23	finger	manamana lima	??	taringa	--
24	eye	maka	čalme	kanohi	ohkara
25	rock	pōhaku	keđgi	kōwhatu	onên:ia
26	head	poʻo	uáivi	mātenga	o non tsi
27	ear	pepeiao	pelji	taringa	ohonhta
28	man	kāne	almai	tane	rôn:kwe
29	knee	kuli	iidâ	turi	okwitsha
30	stomach	ʻōpū	cuávji	puku	onekwen:ta
31	nose	ihu	njune	ihu	o'niónhsa
32	foot	wāwae	jyelgi	waewae	ohsi:ta
33	woman	wahine	nissoon	wahine	iakôn:kwe
34	eating	ʻai	(boy) pärni	kai(nga)	tesatskahon
35	running	holoholo?	purâdiđ	omaoma	tesarahtat
36	sitting	noho	čokkáđ	noho	sakien
37	crying	uē	ciârruđ	tangi(-hia)	tesasôntho
38	rainbow	anuenue	--	kopere,	-- (??)

Appendix D

Sample of language nest budget

Table D.1. Sample of language nest budget

	Jan	Feb	Mar	April	May	June	July	August	Sept	Oct	Nov	Dec	Total
Income													
Fundraising Revenue (210)	-	-	-	500	-	500	-	500	-	500	-	500	**2,500**
Equity Funding (240)	-	500	-	-	1,000	-	-	-	1,000	-	-	-	**2,500**
Interest Income (220)	30	30	30	30	30	30	30	30	30	30	30	30	**360**
Kaupapa Funding (260)	-	-	37,521	-	-	-	58,146	-	-	-	53,010	-	**148,677**
Koha Income (225)	50	-	50	-	-	50	-	50	50	-	50	50	**350**
Miscellaneous Income (230)	200	200	200	200	200	200	200	200	200	200	200	250	**2,450**
MSD - Wage Subsidy Income (235)	-	-	-	350	-	-	-	-	350	-	-	-	**700**
National Trust Funding	-	-	-	-	-	-	-	30,000	-	-	-	-	**30,000**
Purapura Wananga (265)	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Rental and Hire Income (245)	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Whanau / Matua Fees (280)	3,000	3,000	9,000	3,000	9,000	9,000	9,000	3,000	9,000	9,000	3,000	3,000	**72,000**
WINZ Child Care Subsidy Income (285	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	**36,000**
Total Income	**6,280**	**6,730**	**49,801**	**7,080**	**13,230**	**12,780**	**70,376**	**36,780**	**13,630**	**12,730**	**59,290**	**6,830**	**295,537**
Less Operating Expenses													
ACC Levies (400)	-	-	-	-	-	-	-	-	1,800	-	-	-	**1,800**
Accounting Fees - Xero and accountan	150	150	150	150	150	150	150	150	150	150	150	150	**1,800**
Advertising and promotion expenses (5	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Audit Fees (410)	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Bank Charges / Fees (420)	8	8	8	8	8	8	8	8	8	8	8	8	**96**
Cleaning, sanitary & rubbish expenses	250	250	250	250	250	250	250	250	250	250	250	250	**3,000**
Computer & electronic expenses - repa	20	10	20	10	20	10	20	10	20	10	20	10	**180**
Electricity power & gas (440)	110	110	110	110	110	110	110	110	110	110	110	110	**1,320**
Fundraising expenses (445)	-	-	-	-	-	-	-	1,000	-	-	-	-	**1,000**
Grounds Expenses	83	83	83	83	83	83	83	83	83	83	83	83	**996**
General expenses (450)	50	50	50	50	50	50	50	50	50	50	50	50	**600**
Insurance expense (455)	-	-	-	-	-	500	-	-	-	-	-	-	**500**
Interest expense (460)	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Kai / kohanga groceries (470)	-	50	50	20	50	50	50	20	50	50	80	-	**470**
Kaimahi training & general (480)	-	100	100	100	100	100	100	100	100	100	100	-	**1,000**
Kaimahi Wages & Salaries & PAYE (48	16,544	16,544	16,544	16,544	16,544	16,544	16,544	16,544	16,544	16,544	16,544	16,544	**198,528**
Koha and taonga expense (490)	-	40	40	-	40	40	-	40	40	40	40	-	**320**
Korowaitangi	-	-	-	-	-	-	-	1,400	-	-	-	-	**1,400**
Legal & professional expenses (495)	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Mokopuna gifts; trips and other expens	-	24	-	60	-	-	30	-	-	50	-	50	**214**
Mokopuna Oranga Pumau (MOP) Insu	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Payroll or software expenses (512)	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Petty Cash expense (514)	-	200	200	50	50	200	50	50	50	50	50	100	**1,050**
Postage / Courier / Freight (515)	50	15	15	15	15	50	15	15	50	15	15	15	**285**
Printing, photocopying & toner (520)	-	-	50	-	-	50	-	-	50	-	50	-	**200**
Purapura wananga expenses (525)	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Repairs & maintenance expense (540)	-	100	390	100	390	100	390	100	390	100	390	-	**2,450**
Resources and materials for mokopuna	-	150	200	150	150	200	150	150	150	100	100	100	**1,600**
Security & safety expense (550)	60	60	60	60	60	60	60	60	60	60	60	60	**720**
Stationery and office supplies (555)	50	100	50	50	50	100	50	50	100	50	50	50	**750**
Telephone / internet fees (560)	60	100	100	100	100	100	100	100	100	100	60	60	**1,080**
Travel & accommodation (565)	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Waka & Fuel expenses (575)	-	50	-	50	-	50	-	50	-	50	-	-	**250**
Water (577)	60	100	100	100	100	100	100	100	100	100	60	60	**1,080**
Whanau hui and governance expenses	-	-	200	-	500	-	100	-	200	-	500	-	**1,500**
WINZ Child Care Subsidy expense (585	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Total Expenses	**17,495**	**18,294**	**18,770**	**18,060**	**18,820**	**18,905**	**18,410**	**20,440**	**20,455**	**18,070**	**18,770**	**17,700**	**224,189**
Net Profit	**(11,215)**	**(11,564)**	**31,031**	**(10,980)**	**(5,590)**	**(6,125)**	**51,966**	**16,340**	**(6,825)**	**(5,340)**	**40,520**	**(10,870)**	**71,348**

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